# MANUAL FOR THE PARK.

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——— "A breath of unadulterate air,
The glimpse of a green pasture, how they cheer
The citizen, and brace his languid frame!
Ev'n in the stifling bosom of the town,
A garden, in which nothing thrives, has charms
That soothe the rich possessor.
These serve him with a hint
That nature lives;—that sight-refreshing green
Is still the livery she delights to wear."

COWPER.

THE QUEEN'S GATE, OR CITY ENTRANCE.

"If pleasure, unmixed with forecastings of retributive bitterness is sought; if the body is to be recruited after the exhaustion of disease; if the wounded spirit is to be healed after the anguish of privation, or the agony of misfortune—nay, if there is any hope that reason shall resume her power, after the pressure on the mind has been more than its strength,—the 'joy that bringeth no sorrow'—the medicine for the disease—the balm for the wounded spirit—the asylum for the wandering mind—*are found nowhere but in the sunny glades, the green canopies, and the life-imparting breezes of nature.*"—MUDIE.

A

# MANUAL FOR THE PARK;

OR,

A BOTANICAL ARRANGEMENT AND DESCRIPTION OF THE TREES AND SHRUBS IN THE

# Royal Victoria Park, Bath;

COMBINING ITS HISTORY, WITH MUCH ADDITIONAL, INTERESTING, USEFUL, AND APPROPRIATE MATTER.

BY

FREDERICK HANHAM, M.R.C.S.E.,

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THE ROYAL VICTORIA PARK GATE.

LONDON:

LONGMAN, BROWN, GREEN, LONGMANS, AND ROBERTS.

BATH: R. E. PEACH, 8, BRIDGE STREET.

MDCCCLVII.

TO THE

COMMITTEE AND SUBSCRIBERS

OF THE

ROYAL VICTORIA PARK, BATH,

THESE PAGES ARE MOST RESPECTFULLY

DEDICATED;

WITH THE VIEW OF GIVING A CORRECT AND SCIENTIFIC NOMENCLATURE OF THE PLANTS CONTAINED IN IT; AND AS AN EARNEST OF A HEARTY WISH TO CO-OPERATE IN THEIR EFFORTS TO FORM AN ARBORETUM; THUS INCREASING THE VALUE AND ATTRACTIONS OF THE PARK, BY COMBINING SCIENCE WITH RECREATION AND PLEASURE;

BY THEIR VERY OBEDIENT AND HUMBLE SERVANT,

FREDERICK HANHAM.

# PREFACE.

SINCE the formation of the Royal Victoria Park, in 1830, a correct and scientific Nomenclature of the plants contained in it, with some account of them, and the proper Labelling of the same, have been great desiderata.

To supply this deficiency, and with the view of making the Park approximate as far as possible to an Arboretum, and hence interest more persons in its support, from an increased attraction, by endeavouring to give it that additional character of a scientific kind which this picturesque and truly splendid domain is entitled to have, (a domain not inferior to many other eminent pleasure-grounds of a proportionate size for public resort,* now happily becoming so numerous and fashionable throughout the kingdom, combining science with recreation and pleasure, under the various titles of Arboretum, Park, Botanical, Horticultural, and Zoological Gardens) the following pages have been written.

And "while the study of Botany and other kindred sciences leads us to admire the works of 'Him who is wonderful in counsel and excellent in working,' it is at the same time valuable as a means of mental training. It calls forth the

* The Royal Victoria Park occupies an area altogether of about forty-six acres and a-half, which is perhaps the largest space of land appropriated to a public pleasure-ground in the kingdom, excepting the Royal Parks and Gardens in London and its environs. The celebrated Derby Arboretum is only seventeen acres, and has no carriage drive.

observing powers, it accustoms the student to compare and discriminate objects, and it enforces accuracy of expression and description. Such studies are well fitted for the youthful mind, and they ought to be included in a liberal education."*

To the young, then, if not to those of mature age, every facility and inducement given to such pursuits, so instructive and lovely in all its ways, and which moreover will lead to higher contemplations or an exalted love of nature, should be everywhere encouraged.

The custom of planting Arboretums, or collections of all the trees and shrubs which will grow in the open air in Great Britain, is comparatively of recent date, as, till the commencement of the present century, trees and shrubs were planted indiscriminately, without arrangement or even labelling, and, consequently as the result, in many places, rare and valuable trees were lost, or rendered comparatively useless. In an Arboretum, on the contrary, each tree is in its proper place, and is not only seen to the best advantage, but is instantly missed, if any accident occurs to it. Such a collection will have all the ordinary beauties of a pleasure-ground viewed as a whole; and from the name of every tree and shrub being placed against it, an inducement is held out for those who walk in the Park to take an interest in the name and history of each species, its uses in this country or in other countries, its appearance at different seasons of the year, and the various associations connected with it.

Moreover, it will be a greater inducement for many persons to visit us, "in season and out of season," and remain longer with us than they otherwise would; as is the case at the Derby Arboretum, which is visited annually by a large number of persons, strangers to Derby, on account of, and solely for,

* Outlines of Botany. By J. H. Balfour, M.D., &c. Preface, page 6. An excellent elementary work for those who would wish to study Botany.

its collection of trees and shrubs, with the correct and scientific nomenclature which it gives. In truth there is no reason, but the sacrifice of our own interest, why the Bath Park, in addition to its being a place for recreation and pleasure, should not serve the same scientific and practical purposes, for reference to living plants, duly named, &c., in the West of England, as the Derby Arboretum is to the North, or other Botanical collections more centrally situated in the kingdom.

With this object, therefore, in view, it was desirable, in the list of trees and shrubs, that as large a number of species as possible should appear to give it extent and importance, as well as utility; and for that purpose, and to illustrate and extend the natural orders, and make the book serviceable elsewhere, (which now contains, from late additions, all the common and many rare plants introduced to Great Britain, including the Forest Trees), the Gravel Walk and Upper Common have been included in the boundary of the Park, which are much frequented for their beautiful promenades and landscape views, the former being a direct communication from Queen's Parade Place at the entrance of the Park to Marlborough Buildings. Several species of plants are found there which are not in the Park.

Of the latter, or Upper Common, it may be said, that it is intersected with several paths leading to Sion Hill and Cavendish Place, planted with trees each side and skirting its boundary, giving an agreeable shade to the pedestrian. Beautiful panoramic views are here seen of the City, and its South and West side, of the adjoining country, with the meandering of the River Avon gliding in its serpentine form through the fertile vale beneath towards its ultimate destination in the Bristol Channel. Here may be enjoyed the fragrant and refreshing zephyr breezes from the West, diffusing a bracing sea air from the Channel with the aroma of the flowers of the mead, heightened by the setting sun of a

hot summer's day, and imparting at once health to the body and a balm and reflective mood to the mind.

Also included in the boundary for the same reason, is the late "Royal Victoria Horticultural and Botanical Gardens," (where the Horticultural Exhibitions were, until recently, alternately held, in connection with Sydney Gardens), which were laid out in 1840, by Mr. Baxter, jun., of Oxford. It still contains many, and some rare, fine, and beautiful specimens, as might be expected under such favourable auspices.

In addition, a description has been given of some plants, as Desiderata, in the hope that they will soon be added to the Park; and as a blank space is necessarily left after the Locality to these, when labelled, they can easily be marked by those who are interested in them.

A mark, or asterisk, is added to the locality of those plants that existed or were found in the Park when this work was first undertaken, but are now dead or missing; and, as they have been described, they are continued as desiderata to be *restored;* or otherwise an undertaking of this kind, it must be obvious, at the period of its publication, would be always incorrect, and a great deal of time and labour expended in vain.

Much important information has been obtained from the following works:—De Candolle's "Prodromus Systematis naturalis Regni Vegetabilis;" Loudon's "Arboretum et Fruticetum Britannicum;" Loudon's "Encyclopædia of the Trees and Shrubs of Great Britain," and his "Encyclopædia of Plants;" "Miller's Dictionary," by G. Don; "Prodromus Floræ Nepalensis," by David Don; Endlicher's "Synopsis Coniferarum;" Lindley's "Introduction and Natural System of Botany;" Selby's "History of British Forest Trees;" Barron's "British Winter Garden," and Mudie's "Botanic Annual;" the "Florigraphia Britannica," by Messrs. Deakin and Marnock; Smith's "English Flora;" Maund's "Botanic Garden;" Messrs. Knight and Perry's "Synopsis of Conife-

rous Plants;" Balfour's "Outlines of Botany;" and the "Forest Trees of Britain," by the Rev. C. A. Johns: also the recent and valuable publication upon Coniferous Plants, by Monsieur Carrière, entitled "Traité Général des Coniféres."

The Nomenclature and Classification for the most part, excepting the Coniferæ, is from Loudon's "Encyclopædia of Trees and Shrubs."

The Characters of the Natural Orders, and also those of the Genera and Species, are chiefly from the works of De Candolle, George and David Don, Loudon, and Lindley, as being the most correct.

The Derivation of the Generic names is also from Loudon's Encyclopædia, as the best authority. For their farther Identification and Synonomes, reference may be made to the same work, as more details would exceed the limits of these pages.

Under the Habitat, will be found its Geography, and whether it is Deciduous or Evergreen, &c.

The Locality will give its situation in the Park, as nearly as can be described in a few words; and if the trees and shrubs should be named or labelled after this publication, there will be no difficulty whatever in finding them, their localities also being made permanent as here recorded.

The Description includes as much general information respecting the plant, with the specific character previously given, as desirable. And under the head "Observations," anything remarkable, interesting or useful, regarding it is noticed.

As the proper Labelling of the plants is important, and the chief object of this publication, it may be well to mention that their Names should not only be correct, but their Description as concise and brief as possible. The Labels also should convey at the same time the greatest information in the smallest space. The Natural Order of the plant, should stand by itself at the top of the Label, and immediately underneath it, the Botanical name, both Latin and English, in their proper

sequence. Next, the Habitat. and average Height when fully grown; and lastly the Year or Date of its Introduction, as in the Example below; which is given to prevent mistake. The Figures on the labels will refer to the number of *Species, or different kinds* of plants in the Park, including some Varieties; as also to its Description, &c., in this Manual; but *not* to the *number* of trees and shrubs in the Park, which amount perhaps to nearly 30,000.

In order to keep up the list of plants here recorded, (510 Species and Varieties,) in the event of any dying or missing, an endeavour will no doubt be made by the Park Committee to replace them.

I would here state, that much study and extended examination of the Species and Varieties of Trees and Shrubs in the Park have been required, to determine with accuracy many of their names, particularly the Genus Ulmus, Cratægus, and some of the Order Coniferæ; the former being generally considered difficult by Botanists from its protean character. It was therefore necessary to compare and correct them, as far as possible, in noted collections of authority, in various and distant parts of the kingdom; viz., the Derby Arboretum, and the celebrated and extensive Pinetum (for the Coniferæ) at Elvaston Castle, in its immediate neighbourhood; Kew Gardens; the Horticultural Society's Garden, at Chiswick; the Royal Horticultural and Botanical Gardens, Regent's Park; Syon House; the Fulham Nursery; Kensington Gardens; and St. James's Park, London; &c., which have unavoidably delayed the earlier appearance of the work, together also with the recent alterations in the Park, transplanting, &c., and the wish to introduce as many additional plants as possible before its completion, and the time again required afterwards in preparing the manuscript for the press.

The pleasing duty now remains for me to acknowledge the assistance derived from others, and encouragement given in

various ways to the undertaking, for which I tender my best thanks, particularly to the following gentlemen. The Rev. J. MURCH, for the loan of books, and his favourable notice of the intended work in the annual report of the Park Committee for 1854-5, as well as permission of the publication of a Prospectus upon the subject in the same. To him also and the Park Committee, for readily assenting to a number of desirable Trees and Shrubs being sent to the Park at my request. To R. T. GORE, Esq. for the loan of books, and the uniform interest taken by him throughout the undertaking. The many valuable plants also given by him to the Park, have greatly enriched the collection, as well as the late extensive addition given by P. B. DUNCAN, Esq., deserve to be recorded. To Mr. G. WATTS, Secretary to the Park, for the Annual Reports of the Park Committee, and other valuable books. Also to Mr. HOBSON, Artist of this city, for the drawings from which the Vignettes were taken. (The latter were lithographed by Messrs. HOLLWAY and SON.) To Messrs. COTTERELL and SPACKMAN, Surveyors, for the Map or Plan of the R. V. Park, which they kindly gave for the occasion. To Mr. EDWARD CARPENTER, Nurseryman, for the free access at all times to the R. V. Horticultural and Botanical GARDENS. And lastly, to Mr. GRIFFIN, for the unrestricted use of his Nursery.

EXAMPLE OF LABEL.

ÆSCULACEÆ.

32. ÆSCULUS HIPPOCASTANUM.
Common Horsechestnut.

A large deciduous tree. N. America. Height 50—60 ft. Introd. 1629.

5, *Miles's Buildings, Bath; March 10th*, 1857.

# INTRODUCTION.

As a part of the Introduction to the following pages, an account of the history or proceedings relative to the formation and subsequent improvement of the Royal Victoria Park, may be deemed interesting and appropriate, Abstracts from the Annual Reports published by the Park Committee from its commencement to the present period, have been made; and when the increasing beauty and importance of the Park to the city of Bath is considered, with the general approval and interest which it has excited, renders a detailed account the more desirable, were it only as a most gratifying portion of our Local History.

"The plan for the improvements, originated with a few respectable Individuals, principally persons engaged in business, who were invited by Messrs. J. DAVIES, T. B. COWARD, &c., in the summer of 1829, 'to attend a select meeting at the York-house, for the purpose of taking into consideration some plan for the general welfare of the City.'

"The number who attended did not exceed twenty persons,* and the improvement contemplated by the Gentlemen

* "The Meeting was held on the 11th of August, 1829. Present, Mr. J. Davies in the Chair.

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| Messrs. H. Godwin. | Messrs. C. Geary. | Messrs. W. Crocker. |
| ,, R. M. Payne. | ,, C. Godwin. | ,, B. L. Reilly. |
| ,, T. B. Coward. | ,, E. English. | ,, H. Hobson. |
| ,, B. Bartrum. | ,, J. Martin. | ,, T. Mulligan. |
| ,, S. Simms. | ,, W. Evans. | and |
| ,, C. Duffield. | ,, J. Stothert. | ,, J. Loder. |
| ,, J. Stafford. | ,, C. Bones. | |

Nearly the whole of whom were constituted into a Provisional Committee, to prepare Plans, and make every necessary arrangement.

who convened the meeting did not extend beyond the Crescent Fields, (now the first division of the Park,) but that was soon determined to be too confined a sphere of operation for the spirit of the times, which demanded some additional attraction, particularly that of ornamental Plantations, Walks, and Rides being formed in our immediate vicinity. Resolutions were passed, and a Deputation appointed to wait upon the Body Corporate, and to confer with the Freemen, in order to obtain their sanction to that more comprehensive plan which has subsequently been adopted.

"In conformity with a previous resolution, the Deputation waited upon the Right Worshipful, the Mayor (W. TUDOR, Esq.), who, in the most courteous manner signified his personal concurrence in the measure, with his best wishes for its success, and his full persuasion that the members of the Body Corporate would render every facility in their power to promote it, consistent with their duty as Trustees of the Estate; the Mayor further recommended that an application should be made to the Freemen, in order to obtain their approbation to any measure that the Deputation may have to propose.

"The above interview was followed by a conference with the Freemen's Committee, when Mr. EDWARD DAVIS'S plan of the proposed improvements was laid before them; which, after an examination, and discussion conducted in a most friendly manner, they approved; and came to an unanimous resolution in favour of granting the Land required, reserving as the yearly rental for the same, 'after the rate of six pounds an acre, agreeable to measurement.' As the resolution of the Freemen in reference to this matter, indicates a liberality of feeling which does them honour, it is subjoined.

"'We the undersigned, Freemen of the City of Bath, understanding that it is in contemplation to make Drives and Walks through the Common Fields, beg to express our approbation of the same, and to

hope that the plan may be carried into effect, feeling assured that it will materially add to the welfare of the City, as also to the comforts of its Visitors and of the Inhabitants generally.'

"The plan having thus obtained the decided sanction of a great majority of the Freemen, was next forwarded to J. H. SPRY, Esq. (the Mayor), who kindly and promptly laid the same before the Body Corporate, in Common Hall assembled. The liberal support and sanction which it received from the Municipal Authority, will best appear by the following extract from a letter, dated Dec. 5, 1829, addressed by P. GEORGE, Esq., Town Clerk, to Mr. JOHN DAVIES, Chairman of the Provisional Committee.

"'The Letters, with the Plans for making a Drive and shady Promenades in the Town Common, were yesterday, at a Common Hall, submitted to the consideration of the Corporation, when they entered into an unanimous Resolution to give their cordial support to the scheme, and appointed a Committee to co-operate with the Deputation in making the necessary arrangements for its execution. They also voted a donation of one hundred pounds towards the immediate outlay, and one hundred pounds per annum towards the contingent expenses.'

"The gratifying intelligence conveyed in the above, was promptly and gratefully acknowledged in the following terms, addressed to the MAYOR, by Mr. GODWIN, on behalf of the Provisional Committee.

"'Allow me, Sir, to express the heartfelt thanks of our Committee to your Worship and the gentlemen of the Body Corporate, for this additional evidence of their solicitude to promote the welfare of the City. While your liberal Donation of £100 will stimulate our Committee to increased and immediate exertions, they cannot but express their high sense of gratitude for the munificent Subscription of £100 per annum towards the contingent expenses;—a sum, the amount of which is at once calculated to relieve every anxiety they might have felt as to the future, and they trust to excite the most generous feelings in the bosoms of their fellow citizens.'

"The approach through the Crescent Fields appeared to the Provisional Committee as the next most desirable object to attain, in order to bring the accommodations of the Park within the limits of the City, and the more ready access of the inhabitants. Happily this desideratum was, without any difficulty whatever, obtained from Lady RIVERS; every facility to the accomplishment of the undertaking was kindly afforded by her Ladyship, with a grant of the land required, subject to such proper restrictions as may prevent any nuisance or misappropriation of the same.

"After this understanding from Lady RIVERS, it was deemed expedient to call a general meeting of the Inhabitants, which was accordingly summoned at the Assembly Rooms, on Friday, the 1st of January, 1830, when J. H. SPRY, Esq., the Mayor, was called to the chair, and various resolutions for carrying the project into immediate effect, and for raising a Subscription for that purpose, were moved and seconded by Lord James O'BRYEN, (the late Marquis of THOMOND), Sir T. STRANGE, Bart., Sir H. BAYNTUN, K.C.B., Dr. PARRY, Alderman TUDOR, and other gentlemen of the first distinction and influence in the city."

The result of this meeting, with what had been previously done, ended in Subscriptions being immediately commenced, (headed as before mentioned, by the liberal and munificent donation of £100, and £100 annual subscription by the Corporation,) which gave so admirable a stimulus to the public, that in a very few months the amount collected to defray the expenses of its formation was little short of £5000.

"The work was commenced in the lower Common Fields, (the second division of the Park,) and an immense plantation formed, which belted the whole meadow, commencing from the lower end of Marlborough Buildings, and including a superb sweep of gravel-walk and a noble carriage drive. A beautiful fishpond was also formed about the centre of the

field, likewise encircled with a handsome gravelled walk. This part of the domain was perfected so rapidly, that the promenades were open to the public use in the middle of the Summer of the same year, and by the Autumn two very beautiful architectural screens, or gate entrances, after the Italian style, were erected, one at the City entrance from Queen Square, and the other at the Marlborough Buildings entrance."

The annual expenditure for its maintenance is about £700. The first division of the Park belongs to Sir J. Rivers, Bart. The second, and larger portion of the ground, to the Freemen of the City.

"The advantages which shady promenades and agreeable drives are to any city or town are too obvious to require enumeration. On the Continent, there are few places of any eminence but what possess them; and if we look at home, we shall find the introduction of them forms one of the chief attractions of several other places of fashionable resort. Hence, hitherto, the frequent lament and surprise that our city, so unrivalled in the elegance of her buildings; so affluent in her accommodations for the Resident and the Visitor; so celebrated for the beauty of her adjacent scenery, and, above all, so blessed by Providence for the acknowledged virtue of her healing springs, should so long have remained destitute of any public walks and rides, where the pedestrian may enjoy exercise shaded from the noon-day sun, or the invalid be invited to an airing without the inconvenience or dust of a turnpike road.

"To supply the deficiency complained of, the delightful meadows called the Bath Commons, present a site at once possessing every advantage for such a purpose. By its proximity, its easy and gentle ascent, an extensive and richly diversified prospect of the surrounding country is readily attained; whilst its varied undulations are admirably adapted,

under a tasteful hand, to relieve the tameness of uniformity in its design.

"It will be obvious, however, that such an undertaking must be attended with considerable expense in its formation, and no inconsiderable one in its yearly maintenance. To defray the former, generous donations may be anticipated, and it is hoped that such a sum will be obtained as may leave a surplus to be invested, sufficient to secure the annual rental of the land occupied, a space of about twelve acres;* (the Lower Lawn has been added since;) and with respect to the maintenance of the intended improvements, surely there can be no doubt that annual subscriptions will be furnished fully adequate to the purposes of keeping in order a drive of such an extent in length, the various shaded walks attached to, and diverging from it; the outlay for occasional planting, pruning, and cleansing the ornamental plantations, with the requisite fences, and proper persons to protect the same, and such other incidental expenses as may accrue."

1831. The Report of the Committee presented at the First Anniversary, on the 7th January, states, "The progress which, in the short space of twelve months has been made towards the completion of the whole design, must be apparent. Portals, worthy of the interior, have been erected, which display great architectural beauty, and form two of the principal entrances. A drive is already formed, extending 2163 yards, with walks of a far greater extent. Plantations in a thriving condition already meet the eye, with the verdure

* The Royal Victoria Park occupies a space altogether of about forty-six acres and a-half; viz., the first, or smaller division, nine acres and a-quarter, including the Lower Lawn; which is three acres, three roods, and thirty poles. The second, or larger portion, thirty-seven acres and a-quarter. The High Common, which is not included in the Park, is a little over thirty-nine acres.—*From Messrs. Cotterell and Spackman's Survey.*

of more than 25,000 evergreens, forest trees, and shrubs. The scattered streams of the field concentrated into a pond, now form an ornamental piece of water of considerable extent and beauty; whilst to add to the scene, the Body Corporate are having erected a tasteful Gothic building, as a Farm-house to the Freemen's Estate, which will present a most picturesque object in the general landscape.

"During the past year the Park has been inspected by several persons distinguished for their taste in landscape gardening, who have uniformly borne their testimony in favour of the judgment displayed in its arrangement. Nor should the name of His Royal Highness LEOPOLD, PRINCE of SAXE COBOURG, be omitted, as one of those who expressed his admiration of the whole plan.

"The Committee disclaim any participation in that just meed of praise so liberally bestowed—it belongs to Mr. EDWARD DAVIS, Architect, who so tastefully laid it out, and to him exclusively. He it was, who has in this instance, so happily blended the luxuriance of nature with the classic proportions of art, as to render the Park at once an ornament to his native city, and a lasting memorial to his own fame.

"The arrival of their Royal Highnesses the DUCHESS of KENT and the PRINCESS VICTORIA, presented a most favourable opportunity to the Committee for an auspicious *Opening of the Park on Saturday, the 23rd of October*, 1830; when their Royal Highnesses, attended by the Mayor of Bath, JOHN FORD DAVIS, Esq., M.D.; the LORD BISHOP of the DIOCESE, Lord JAMES O'BRYEN, with several other distinguished characters, and a numerous cavalcade, entered the Park at the approach near the Queen's Parade, accompanied by many thousands of the inhabitants. After the procession had made a circuit of the whole drive, Her Royal Highness the DUCHESS of KENT, with the most dignified condescension, expressed the gratification which herself and the PRINCESS

had felt; and in testimony of that pleasure, and for attentions paid, was pleased to contribute, among other donations to public establishments, the sum of £25 to the Bath Park, accompanied by an express wish that in future it should be called—

'THE ROYAL VICTORIA PARK,'

in honour of the interesting and illustrious PRINCESS, the Heiress Presumptive to the Throne."

1832. "During the past season, numerous alterations and improvements have been accomplished; a new and beautiful promenade has been formed parallel with, and leading into the Weston Road; ornamental Plantations have been made with a border of Shrubs and Forest Trees, which will soon afford a shaded retreat to the pedestrian; seats have been erected in various parts for the accommodation of visitors; and the whole Park may now be considered complete as to its arrangements; and, with the exception of some necessary reparation of its Roads, nearly perfect as to its condition."

1833. "Among the ornamental donations to these beautiful promenades, are a noble pair of Bronzed Lions, from Code's celebrated manufactory, presented by Mr. GEARY, of Prior Park Buildings, and placed over the Queen's Gate or City entrance, near Queen's Parade. A pair of Sphinxes, placed on the pediments at the Rivers Gate entrance of the Rivers estate, are the joint present of ISAAC WILLIAMS, Esq., of Cottage Crescent, and of Mr. REEVES, the Statuary. The elegant Urn was also presented by Mr. HANCOCK, of Westgate Street, and forms an appropriate ornament under the weeping or Babylonian Willow, at the western end of the pond.

"It is gratifying to know that the Royal Victoria Park already possesses sufficient rural charms to render it the resort of beauty and fashion, of the Nobility and Gentry, of the residents and visitors of our elegant city; that by the pleasure

it affords, many have been induced to prolong their stay, or to take up their abode among us; that our seasons, which, from the attraction of rival watering places, had become more limited, begin now to bear some approximation to their former extent; while with her unrivalled architectural beauty, her polished society, and her elegant accommodations, the City of Bath is about to resume her proper altitude as the "Queen of the West."

1834. "A former Report contained an intimation of other improvements that were contemplated; the first of these, namely, 'a convenient and appropriate carriage entrance from the Weston Road,' is already completed in a manner, it is hoped, satisfactory to the Subscribers, and creditable to the taste of the Architect.

"A portion of the Park in front of the Crescent, has also been recently laid out in ornamental plantations and lawns."

1835. "It has been the express object of the Committee during the past year to maintain the rides, walks, lawns, and plantations in a perfect state of efficiency and beauty; in accomplishing which—to procure *solid and permanent* benefit—the outlay has been somewhat more than was contemplated at the termination of last season.

"The ancient foot-path at the back of Marlborough Buildings has been made more commodious, forming a straight unobstructed way to the village of Weston, and which improvement has given general satisfaction; that frequented line of communication having been hitherto, at certain times of the year, altogether impassable.

"The foot-paths round the Park have been lowered, levelled, and fresh gravelled; and various drains have been constructed, to carry off and prevent the collection of water during heavy rains.

"The ornamental appearance of the Park has claimed and received the constant attention of the Committee; and, by

the liberality of the public, they have been enabled to bring it to its present state of perfection.

"Indeed, it must be confessed, that the increasing beauty of this suburban improvement, its attractions, and its utility as a place of recreation, become each succeeding year more apparent; and public approbation warrants that assertion. *Its beauty*, as forming an important feature of the city suburbs, cannot be doubted; *its attractions* add one more to the list of those for which this city has been so long pre-eminent; and *its utility* is marked by the numerous equipages, and frequenters, of all ranks and classes, who assemble daily to enjoy the pure air it imparts."

1836. "Since the last Anniversary the ancient foot paths leading to Weston have been re-modelled, and altogether much improved by the use of a durable material kindly presented by the Committee of the Gas Company, and the walks have generally been much benefitted by a constant attention to their timely reparation and drainage. Under the scientific and gratuitous management of Mr. Wm. M'Adam, a great improvement has been effected in the formation of the carriage-roads of the Park.

"The plantations have also been carefully attended to in the proper season, regard being paid to the removal of trees and shrubs to those parts of the Park which required the addition of ornamental foliage."

1837. "The defenceless state of that side of the Park which runs parallel to the Weston Road, has engaged the attention of the Committee during the past year. A handsome iron railing, surmounted upon a base wall of substantial masonry, 377 yards in length, now protects the Victoria Park on its upper and most exposed boundary. This erection has been effected with the greatest attention to economy, as well as stability. It will prove a great and lasting benefit to the Park, so far as to prevent the necessity of any outlay in that

direction for many years. It has the further recommendation of being a public ornament and advantage to the high road leading to Weston.

"In addition to the usual and necessary reparation of the roads, the removal and replanting a considerable number of Trees and Shrubs, and the transformation of an unsightly stone quarry into one of the most pleasing and rural features of the Park, may be pointed out as worthy of notice. That barren spot, during the past year, has been converted into an ornamental plantation, intersected by greensward and gravel walks, so as to afford an extension of promenade, as well as a delightful summer retreat from the scorching rays of a meridian sun."

1838. "The general expression of feeling evinced upon Her Majesty's attainment of her legal majority on the 24th of May last (1837), with the events that occurred on that day, are all too recent and too deeply impressed upon the recollections of the inhabitants of Bath to need any lengthened detail, more than to record that a Column or Obelisk, the foundation of which was laid under such gratifying circumstances, on that day, has now been reared, and completed in the October following. The Victoria Column, which is of freestone, and of a triangular or bayonet form, constitutes a conspicuous interesting, and ornamental object. Its design and execution were under the direction of the City Architect, Mr. MANNERS."

1839. "The improvements effected during the past year have been an extensive stone edging and reparations of the Pond, the levelling, drainage, and re-construction of the large area round the Column, and sixty-nine Iron Posts and fencing at the entrance of the Park, with twenty Iron-seats upon stone supports.

"The name of JOHN DAVIES is intimately connected with the establishment and subsequent management of the Royal Victoria Park; those who remember the original formation of

this delightful attraction to our City, need not be informed how much the public of Bath owe to the indefatigable exertions of that lamented individual. Among other personal, and often self-denying, services which devolved upon him, was that of soliciting and receiving contributions for the support of the Park at his own house in Bond Street, where a Subscription Book was constantly kept open for that purpose. He was visited with a most distressing affliction, which paralyzed his wonted activity, and ultimately terminated in his dissolution."

1840. "During the past year the services of Mr. SALTER, Nurseryman, have been called into requisition, and under his directions much improvement in the Lawns and Plantations had already been effected, and several hundred young Trees had been planted to supply vacancies.

"On the 18th Sept., 1839, the foundation-stone was laid for placing at the north-west corner of the Park a Colossal Head of Jupiter, raised upon a base and pedestal erected from a design by T. BARKER, Esq., the celebrated painter. This interesting and stupendous piece of sculpture is from the chisel of the late Mr. JOHN OSBORNE, of Bath, a self-taught artist, and is carved from one block of freestone, weighing upwards of six tons. After the decease of the artist, a subscription of about £100 was collected, and the bust was purchased of the Widow. A larger sum however, was of necessity raised, in order to defray the charge of the rockwork around it and the plinth above.

"The formation of 'The Royal Victoria Horticultural and Botanical Gardens,' during the past year, has added another most delightful attraction to the Park. An establishment of this kind had long been wished as a desideratum to a city so eminent for the cultivation of medical and botanical science. Such an institution however, is now fast approaching to its completion, and that, too, in a manner worthy of its name

and its locality, and highly creditable to the scientific arrangement of Mr. BAXTER, jun., of Oxford, under whose tasteful superintendance it has been brought to its present state of perfection. Nor is it too much to anticipate that the student of 'the herb that sips the dew' will here pursue his botanical research with advantage to himself and the world; while the lover of flowers (and who is not a lover of flowers?) may here trace the unfoldings of Nature in all her matchless varieties of form, of fragrance, and of colour."*

1841. "Iron pillars have been substituted during the past year for the dilapidated wooden posts on the south side of the Pond. The arrangements entered into with Mr. JAMES SALTER, for keeping the Lawns and Plantations in proper order, already appear to great advantage, together with the extensive pruning, removal and planting young Trees and Shrubs.

"The Carriage Drives have received, as formerly, the kind and gratuitous attention of Mr. M'ADAM, and many obligations are due to that gentleman for the excellent condition in which they are found."

1843. "During the past two years a great outlay has been incurred in the thorough and extensive repair of the roads and walks, and the very picturesque improvement of the pond, with the substantial boundary which now encloses it. Some further expenses have been made by the formation of ornamental plantations at the back of Marlborough Buildings, with several alterations and embellishments which have been effected in different parts of the Park.

"An arrangement has been entered into with the Freemen for the rental of the Quarry in the middle common, and the

* It is deeply regretted by many, that a few years after its completion the Botanical Garden was broken up, and the Horticultural Exhibitions, which were held here, have since followed the same fate, for want of support!

ground occupied by the newly formed footpaths in the upper common, at the sum of £5 per annum, in addition to the present rental of £70 per annum, paid to the Freemen of Bath. The use of these cross paths, and the frequent trespass of the Public upon the Freemen's estate, had often been the subject of misunderstanding with that Body; and which, by this arrangement, it is hoped, is now and for ever set at rest."

1844. "One of the improvements of the past year has been a contraction of the Drive on each side of the Obelisk, which, while leaving ample space for carriages, extended the size and improved the shape of the Lawns. Another was the substitution of Iron Pillars for the decayed Wood Posts in the Avenue before the Crescent. And more recently the Committee have coöperated with the Freemen's Committee, in erecting suitable Gates at the entrance to the High Common."

1845. "The universal love of a green sward, and the desire to relieve the effect of the white road, have led in several places to the addition or introduction of turf, on the borders of which, a neat palisading and many new seats have been placed. A substantial boundary of appropriate stone work has been added around the path of the Pond, on which so many assemble to watch the water fowl.

"Two other undertakings remain to be mentioned:—the walk from the statue of Jupiter through the exhausted quarries forming the Dells, and the conversion of a private garden, at the back of Brock Street, (where the Photographic Institution previously stood, near the Mulberry tree), into a public pleasure ground."

1846. "The walks have received considerable attention. In preparing some of them for new gravel it was found desirable to improve their shape, and re-lay the stone edging. The long low walk on the South side was entirely re-made. It is now at all times dry, and though still shady, more open

than before. A direct continuation of it has been made through the trees at the entrance of the first or Lower Dell to the top of the rising ground."

1847. "The principal alteration of the past year has been that of throwing into the Park the field in front of the Crescent, at the sacrifice of a rental of £15 per annum, which the Committee had been accustomed to receive."

1848. "The erection of a long wall on the southern boundary of the Park, scarcely seen by the Public, but indispensable as a fence, is an improvement and protection effected, which was long desired."

1850. "It is still the plan of the Committee to introduce, from time to time, new and choice varieties of Trees and Shrubs. But few persons can form an idea of the discouragements which are encountered in the stiff clay soil, and the exposed situations of some parts of the Park. Gradually, however, these difficulties may be overcome; and the Public, who are interested in Arboriculture, may have opportunities of cultivating their taste, *especially if the plan of placing Labels can be persevered in.*" *

1851. "A subject of great importance, involving much serious responsibility, has lately engaged the attention of the Committee. It may not be known to many of the Subscribers that the Lease of that portion of the Park which has been held under Sir Henry Rivers from the commencement of the undertaking expires at Midsummer next. Forming the principal and the most beautiful entrance, extending from the Queen's Parade to Marlborough Buildings, the ground in question is indispensable to the purposes of the Park. An application has been therefore made for another Lease of

* It is hoped this desideratum will now be accomplished by the present publication, which will then prevent many rare and beautiful plants from being lost or indiscriminately destroyed.

twenty-one years, which has been granted on the same terms as the present, £139 per annum; the only other condition involving serious expense being the erection of a fence, and the partial formation of a road at the back of Charlotte Street. But as it could not be expected that a Lease would be granted to a numerous and fluctuating body, such as the Committee in their collective capacity unavoidably are, the question arose whether any two or three would undertake the responsibility, on behalf of the Public, of paying the rent and complying with the other covenants, for one-and-twenty years to come. It may be easily supposed that under ordinary circumstances, considering the uncertainty of life, the precariousness of public support, and the difficulty of giving general satisfaction, *all* who were appealed to would have gladly declined, if they could have acted solely in accordance with their own inclination; there was a strong feeling, however, that the advantage to be secured for the City of Bath, demanded some personal risk; the consent of three of the Committee, least advanced in life, to fill the office of Lessees was given; and it is hoped that no protection or guarantee which the Subscribers can give those gentlemen, at the present or any other future meeting, will be withheld."

1852. "During the past year, the long wanted wall on the western side, in Park Lane, adjoining the lower dell, has been erected at a cost, with the iron railing, of £86. The handsome donation of £50, was given towards this object from a friend, whose unwearied generosity is so well known in Bath. —P. B. Duncan, Esq."

1853. "A slight alteration has been made in the approach from Weston by the footpath, which has rendered the walk more dry and pleasant. The growth of the pine trees, and other evergreens, planted some years since in the adjoining dell, has much increased the beauty of this part of the Park.

"The restriction not to walk on the grass of the field, or

Lower Lawn, facing the Royal Crescent, was withdrawn, for the first time, during the Summer months of the past year; and although there has been some difference of opinion expressed as to its continuance, it appears that the Subscribers, and public generally, are most desirous that the privilege allowed should be perpetuated.

1854. "At the last Annual Meeting there was considerable discussion as to the propriety of throwing open to the Public the field or Lower Lawn facing the Crescent. In compliance with a wish very strongly expressed, the Committee again withdrew the regulation against walking on the turf during the Summer months; and if a majority of the Subscribers continue to be of opinion that this course should be pursued, future Committees will doubtless act accordingly, whatever may be thought of the policy by those who have taken the longest and most active interest in the maintenance of the grounds. But the present Committee are bound to state, not only that there is considerable diversity of opinion on the subject among the supporters of the Park, but that the scenes of noise and rudeness frequently witnessed during the Summer are alleged as a reason for withdrawing subscriptions. In all other parts of the Park there is, however, little to complain of; they are still frequented by large numbers of people of all classes, enjoying quietly and decorously the advantages prepared for them."

1855. "It is well known, that a large portion of the funds contributed by the Public is expended year by year on precisely the same objects; the payments of about £220 for rents, and nearly the same sum in weekly wages. To keep in due order the walks, roads, lawns, and plantations, about eight men in the summer and six in the winter are constantly employed, exclusive of the park-keeper.

"No alterations of any importance have been made during the past year, though a larger number than usual of new

species and varieties of trees and shrubs have been introduced. For this purpose, the Committee availed themselves of the sale by auction at Mr. Griffin's nursery during the planting season, when many curious and beautiful specimens —chiefly of Coniferæ—were purchased for the Park. With the view, moreover, of meeting the wishes of botanical students as well as increasing the general interest of the grounds, they have collected singly a considerable number of trees which were wanting to complete certain classes.

"A laudable attempt has been lately made to increase the attractions of Bath during the summer months, by engaging an excellent German band to play in public places. To the application of their respected fellow citizens for the use of a part of the Park for this purpose, the committee lent a willing ear, and they are glad to find that this co-operation for a common object has been so successful."

1856. The past year has been a memorable one for the Park:—in the discontinuance of the Horticultural Exhibitions; the engagement of the Hanoverian Band; the employment of a head Gardener; and lastly, the serious diminution of the Park funds.

Considerable regret was occasioned by the breaking up or discontinuance of the long-admired and delightful Horticultural Exhibitions, which were held here alternately with Sydney Gardens during the summer months. The day was ushered in by the merry peal of bells, midst the continual arrival from the neighbourhood of numerous gaily dressed persons, the élite of fashion, rank, and beauty; enlivening the City and giving it a holiday appearance, as but one feeling of pleasure and happiness seemed to reign upon all those who were participators on these joyous occasions.

As a substitute for the Horticultural Exhibitions, the establishment of an excellent German, or Hanoverian Band, to play daily at alternate periods on the lower lawn facing the

Crescent, from the beginning of May to the end of September, in conjunction with its performance at Sydney Gardens, where is also held an occasional Floral Fête, is a source of much pleasure and gratification to the inhabitants and visitors of Bath, and is now become one of the greatest attractions of the place. Too much cannot be said in the praise of those, who have in so zealous and praiseworthy a manner exerted themselves, at the sacrifice of much valuable time, in producing these entertainments, and it is hoped they will continue to meet with every encouragement and support from their fellow-citizens, which they are justly entitled to.

The employment of a head Gardener, under the direction of the Committee to superintend the lawns, shrubberies, &c., has shown itself to great advantage during the last and present year, in the arrangement, order, and appearance of the whole. The selection and introduction of a number of fine trees and shrubs; the transplanting of many to better localities; the pruning and thinning out of others; turfing over some of the scantily filled beds; extending the prospect or opening to view the distant landscape, by removing much of the old and decayed hedge at the boundary, are all manifest improvements resulting from his daily supervision.

Concerning the falling off of the Park funds, the following Abstract is made from the last Annual Report of the Park Committee, as a further and timely appeal for additional support from all those who feel an interest in its maintenance, and which it is hoped will not be made in vain. The report states:—"It will be seen by the treasurer's account, that the funds are by no means in a satisfactory state. The balance against the Committee of £22 17*s.* 4*d.* last year, has been increased to £37 3*s.* in the present year. There has been, however, an addition of £20 9*s.* to the annual subscriptions, which is the more worthy of grateful acknowledgment as for many years there had been a serious diminution. With regard

to the future expenses, the Committee now to be appointed will of course endeavour, so long as a debt remains, that they shall be limited to the routine of unavoidable liability. The Committee will do everything in their power for the public, but the public in return, *especially those who use the Park constantly, and whose means are at all adequate, must remember what is* JUST. Many instances of kindness indeed might be mentioned on this occasion. Donations of trees and shrubs, as well as money, are not unfrequently given by those who feel a generous interest in the undertaking. The Committee trust that the spirit, which they thus gratefully acknowledge, will become more common; and indeed they doubt not that whether efforts or sacrifices be needed, they will be willingly made in support of an object so honourable to the city of Bath, and so conducive to the general good."

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As the former part of this Introduction has been devoted to the History of the Park, giving an account of its formation and subsequent improvement to the present period, it is in this second, and concluding part, intended to offer some remarks appropriate to the subject of the following pages, from an admirable little work, entitled, "The British Winter Garden: being a Practical Treatise on Evergreens; showing their general utility in the Formation of Garden and Landscape Scenery, and their mode of Propagating, Planting, and Removal, from 1 to 50 ft. in height, as practised at Elvaston Castle. By Wm. Barron, Head Gardener."

In the above Treatise, Mr. Barron lays great stress upon the superiority of Evergreens over Deciduous trees in pleasure grounds; the former, he well observes, possessing a twelvemonth's charm, and the latter that of five or six months only; and also makes some valuable remarks upon the great variety of tints found amongst Evergreens, and their

subsequent arrangement, so as to produce pictorial effect in the landscape. His observations are so valuable, that it is deemed interesting and appropriate to introduce them here.

He states at page 11, &c., that "nothing is so common as to see, even at the present day, *close to our mansions*, such commonplace things as elms, ashes, sycamores, poplars, or any other rubbish that the nearest provincial nursery may happen to be overstocked with; all stuck in to produce either immediate, or lasting effect! The immediate effects I shall not describe, but some of the lasting ones are these,—a continued litter of decayed leaves during that period of the year when our gardens are expected to look their best; and an assemblage of leafless stems without either beauty of form or outline, and neither affording shelter nor protection from bleak winds for seven months in the year; a want of protection in winter and early spring; the absence of colour (being without leaves) during the same period; the constant litter from falling leaves during the late summer and autumn months; and the unwholsome effluvia arising from decaying leaves in autumn and winter,—form insuperable objections to deciduous trees being planted, or indifferent and uninteresting ones remaining, wherever grounds are intended to be highly kept, or where snugness or neatness are expected.

"All deciduous trees, then, should be so disposed of as to secure the greatest possible advantage from their beauties and uses; but should never be allowed to occupy the place of such as will be both more useful and ornamental in a shorter space of time.

"I must be honest to confess that had I a place of my own to lay out, I should infinitely prefer planting it *exclusively* with *evergreens* wherever beauty or shelter was my motive for planting. By this means I should secure the enjoyment of my grounds (in these points at least) for twelve months in the year instead of only a few months in summer. Whether

we look at beauty of form or outline, from the formal Araucaria and fastigiate Junipers, to the wild grandeur of the Pine, and even to the delicate, graceful, and flowing habits of the Cryptomeria Japonica, Funebral Cypress, Deodar Cedar, and Hemlock Spruce,—or size, from the gigantic Lambert and Bentham Pines, the Sequoia Sempervirens, and Douglass Fir, towering their lofty heads a hundred feet above the pride of British forests, and producing huge trunks of timber—too large for British ears to listen to with credit—to the diminutive dimensions of the Siberian Pine, Hudson, Clanbrasil, and pigmy firs;—or colour, from the deep sombre tone of the common and Irish yews, the glaucous and silvery in the Sabine Pine, P. nivea, and Deodar Cedar, and to the warm and yellow greens in Pinus insignis, and others, even to the rich yellow of the Golden Yew,—I say whether form, size, texture, or colour be the object desired, we have now an abundant supply of materials to paint a scene to our taste; and if shelter be desired, (and what more desirable in our climate?) then we have it in the dense and impenetrable masses of our evergreens, affording, at the same time, a play of light and shade peculiar to themselves. Such as have an organisation giving a taste for the sublime and beautiful, will here find a wild range affording scope alike for the genius of the planter and painter; and I am sanguine enough to believe that the time is not far distant when, with all who can lay claim to real taste in the laying out of our grounds and parks, and improving our domains, it will be thought quite as incongruous to introduce many of the trees now planted, as it would be inadmissible to plant leeks or cabbages in our flower-gardens; and where the object to be attained is profit, certainly the trees which will secure the largest sum in a given time should be selected. A glance at many of our modern plantations will show that we are at fault in our choice. Look at the value of an oak sapling, and consider how long it has taken

to attain to a marketable size! Again, let us compare the worth of ashes, beeches, elms, limes, and sycamores, of twenty or thirty years' growth, with several of our conifers of recent introduction, and we shall soon perceive the necessity of turning over a new leaf. Let not the thought deter us, that because these plants are of recent introduction they are therefore scarce, and that we must wait until they are plentiful and cheap. No: so long as there is little or no demand, that will to a certain extent be the case; but when once it is known that these things will be wanted, the enterprise of British nurserymen will soon supply them plentifully at a reasonable rate.

"Even now some of our nurseries are tolerably stocked with Cedrus Deodara, Araucaria imbricata, Abies Douglasii, Pinus Laricio, and austriaca, &c., &c.; all of which, so soon as the attention of the public can be arrested and brought to bear on the subject, must supersede the ordinary groups which now surround our mansions and occupy the chief places in our landscapes, and crowd our plantations to little purpose where profit is the object.

"Suitable materials from amongst the orders of plants may be selected for composing the most enchanting landscapes, varying in dimensions from a rood to hundreds of acres.

"When a single tree is selected to stand alone, it should possess sufficient attraction in form, size, texture, or colour, to recommend it to our notice; and when several or all of these properties are combined in the same tree, it then becomes an object of the deepest interest. For example, a Deodar Cedar is worthy of any situation, and must ever inspire a contemplative mind with the most pleasing emotions, whether we regard its elegance of form in a young state, its majestic grandeur and dignified limbs when it reaches to 150 ft. in height, or its heavy masses of plume-like glaucous foliage, giving a play of light and shade, forming at once a picture in itself.

"From the constitution or structure of our minds, it will ever follow that a combination of parts, or a scene which affords a variety, will be the most pleasing. One picture may be admired for the beautiful forms which it contains, another for the gigantic or diminutive dimensions of its objects, a third for the delicacy of texture, and a fourth for the brilliancy or harmony of colour; but one, in which *all can be found*, will give much more pleasure to the beholder than all four when viewed separately. This shows the reasonableness of grouping plants, so as to produce the most pleasing effects.

"This principle to a certain extent has been recognised in the flower-garden; but seldom, if ever, in the landscape. Acting in accordance then with the foregoing observations, it will hence follow that *variety* must be introduced.

"The style of gardening adopted at any place, will naturally dictate the kinds of plants which ought to be used to accomplish the desired end, and more especially their arrangement. As the beauties of natural objects can only be fully realized, when viewed in the most favorable lights, and in connexion with surrounding objects which have a tendency to set them off to advantage—so a pleasing contrast will be found in a warm against a cold green, or by reversing their relative positions. In some instances, a gradation of tints will be pleasing, where contrast of form can be brought to bear; as a weeping against an erect growing plant, or one which is stiff and formal against that which is graceful and flowing. Again, the natural sizes of full-grown plants, and the space of ground to be operated upon, will have much to do in determining the selection of kinds and arrangement necessary. Much may be done then in improving the growth and forms of many lovely trees, when nature and art harmonise and co-operate. The advantage, which has been taken of this in the gardens at Elvaston Castle, has given them a character at once unique and new.

"The number of large Yew trees which have been brought together from various parts of the surrounding country, and the immense number of smaller ones, which have been had from nurseries, have given the most favourable backgrounds to trees of opposite colours, as Golden Yews, Irish Yews, and variegated white Cedars, Irish, Swedish, Chinese, and other Junipers.

"Again, the Cedrus Deodara and Abies Douglasii, are worked up in contrast, also the Abies Douglasii and Common Yew, to great advantage.

"Pictures are formed of variegated white Cedars for a foreground, and Irish Yew for a background; glaucous and neutral-tinted Junipers, as the Chinese and Virginian with Irish Yews.

"Again, the warm Pomona green of Pinus insignis, and Cupressus macrocarpa, are contrasted with the deep black green of the Irish Yew, and likewise with the cold retiring Pinus Sabiniana; and again, these warm colours with the glaucous tone of Cedrus Deodara.

"The richest effects can be produced by grouping on grass, deep shady tints of Cembran Pine with the brilliant hue of the best variety of Golden Holly, and the warm yellow green of Chinese Arborvitæ, with a back ground of common Yew, or Cedar of Lebanon. The only admissible deciduous trees among evergreens in the background, are the purple Beech, which can be brought in occasionally with admirable effect; and a variegated Spanish Chestnut may sometimes be taken advantage of.

"Variegated Pinasters, Savins, Hollies, and others already named, and indeed nearly every evergreen possessing a distinct and permanent variegation, is of incalculable value in landscape decoration. All variegations raised from seed are permanent, and hence of the greatest value.

"In decorating the gardens at Elvaston, some plants well

known and found singly in our gardens have been worked up upon a large scale, and with remarkable effect. Where a wild grandeur is wanted, connecting what is refined with its opposite, the common Savin in masses surpasses everything else. This plant, with large tufts or patches of hardy heath, on little hillocks in the foreground, broken with Juniperus Sabina variegata, or tamariscifolia, with occasionally a golden or Irish Yew, or Glaucous, erect, or weeping Juniper, and the background of Hemlock, Spruce, Deodar Cedar, Douglas Fir, or Pinus insignis, will produce a picture which must be seen to be understood.

"With Junipers near rock-work and water, few plants are so effective as the Lavender Cotton (Santalina Chamæcyparissus), and Sea Ragwort (Cineraria maritima): the greyish green of the former, and silvery white of the latter, produce the most striking effects when properly dispersed with plants of opposite tints.

"As plants to give depth to pieces of water and rocky scenes, none can be named with the common and Irish Yews; and for such places, plants of the most striking forms and colours should be chosen, and so arranged as to give the greatest possible depth even to the smallest spaces."—*Barron.*

It is of importance to consider in planting what is to be the effect produced in autumn. The tints may thus be well contrasted, and give rise to most beautiful groups. Lindley remarks, that "Berberis Aquifolium, with its brown crimson leaves, forms a charming contrast with the ever-verdant sameness of Laurels, Bays, and other Evergreens." The Indian Chitra (Berberis aristata) form pleasing groups, especially when contrasted with the hoary branches and apricot-colored fruit of the Cratægus odoratissima. Red Maples, scarlet Oaks, and crimson Sumachs may be contrasted with yellow Planes and Maples, and with Evergreens.

The foregoing observations of Mr. Barron are not introduced

here with the view of doing away altogether with deciduous plants and introducing nothing but Evergreens, far from it; for in a public pleasure ground, the latter exclusively would be much too sombre and not afford sufficient variety, but that they may predominate in a general and good selection would be desirable for the Winter's resort and promenade, if not for the Summer. The two great classes of plants, contrast and harmonize better together in due proportion, and are more pleasing to the eye in the different seasons. In short, no collection is so consonant to the general feelings, instructive and agreeable to the mind, as a skilful, artistically, and well arranged Arboretum.

They are quoted rather with the view of showing how a pictorial effect may be produced by an artistical attention to the selection and arrangement of the different tints that are to be found in the numerous varieties of plants now at our disposal, in place of adhering to the promiscuous, and indiscriminate system of planting, which is too generally adopted in collections, and without much or any regard to variety.

In conclusion, I may perhaps be excused the following observations, as some proof, amongst others that could be mentioned, of the mild, sheltered, and temperate situation of Bath, compared to most other localities, and hence rendering it desirable as a Winter residence for all classes, particularly invalids; that in the latter part of last summer and commencement of autumn, during my botanical excursions, which were far and wide, I could not help observing the superior verdure and lateness of the leaves on the Trees and Shrubs in the Bath Park and neighbourhood; and also the quantity of fruit in comparison with that noticed elsewhere. As an illustration of the fact, I observed the Ailantus glandulosa; Pavia rubra and flava; Æsculus glabra pallida; Negundo fraxinifolium; Rhus typhina; Robinia Pseud-Acacia; Pyrus spectabilis; Cratægus-flava; &c., &c., retained their leaves; whilst in other

localities, the same species at the same time were denuded of them.

It may also not be inappropriate whilst remarking upon the mildness, sheltered and temperate situation of Bath, to state, that I can with truth speak also of the salubrity of the city, as compared with most other towns. Having been the Registrar for some years of the Births and Deaths of the Lansdown district, the largest and most opulent in the city, as well as medical officer of the same, I can with confidence state (and the statistics of the Registrar General will bear me out) that I know of no city or town in the kingdom that is at all equal in every respect to it in salubrity. This I attribute to its favoured locality and freedom from manufactories, and to the fact that the greater part of the streets with their drains are completely washed and cleansed from every kind of débris, upon every shower of rain; and hence arises the almost entire immunity from epidemic, endemic, and contagious diseases.

## THE GRASSHOPPER.

SCENE.—*The Derbyshire Moors.*

Mine is but a summer song,
Merry as the day is long;
Yet, proud man, whoe'er thou be,
Scorn not thou my minstrelsy.
Though monotonous my note,
Can the Nightingale's clear throat,
With its swells, and falls, and beats,
Through a wilderness of sweets,
Pour, in strains that never cloy,
More exuberance of joy
Than my tinkling tones reveal
What a Grasshopper can feel,
What a Grasshopper express,
Of an insect's happiness,
Running in, and running o'er,—
Could a giant's heart hold more?
Or all human language tell
More than my one syllable?
How my pleasant moments pass
In this paradise of grass,
Where the heather and the broom
Flower and shed their faint perfume;
And the gorse, in green and gold,
All delightful to behold,
In its covert dense and dark,
Hides my playmate, namesake Lark,*

* "THE GRASSHOPPER LARK *(Alauda Trivialis)*.—April 18th, 1768. The Grasshopper Lark began his sibilous note in my fields last Saturday. Nothing can be more amusing than the whisper of this little bird, which seems to be close by, though at a hundred yards' distance; and, when close at our ear, is scarce any louder than when a great way off. Had I not been a little acquainted with insects, and known that the grasshopper kind is not yet hatched,

Which, when her low voice is heard,
Seems a spirit, not a bird;
So bewildering, far and near,
Right and left, it haunts the ear,
While the listener's eye, in vain,
Hunts the sound through copse and plain.
Here the stone-chat on her nest,
Lulls her little ones to rest;
There the linnet for her brood,
Plies her wings in quest of food;
While the goldfinch plucks the down
From the regal thistle's crown;
And the cuckoo's double cry
Fills the hollow of the sky,
Answer'd by the raven's croak
From the lightning-smitten oak.
Where the fairy-tribes of moss,
Ancle deep the marsh emboss,
With their innocent decoys,
Lapwings lure marauding boys;
And the rogues, through bog and mire,
Neither dam nor nest acquire,
Either prize which they pursue,
Vanishing when most in view;
As, along the self-same place,
Jack-o'-lantern's light they chase,
Till the meretricious spark
Leaves them floundering in the dark,
Equally by night and day,
With false signals led astray.

I should have hardly believed but that it had been a *locusta* whispering in the bushes. The country people laugh when you tell them that it is the note of a bird. It is the most artful creature, skulking in the thickest part of a bush, and will sing at a yard distance provided it be concealed. I was obliged to get a person to go on the other side of the hedge which it haunted, and then it would run creeping like a mouse before us for a hundred yards together, through the bottom of the thorns, yet it would not come into fair sight;—but, in a morning early, and when undisturbed, it sings on the top of a twig, gaping and shivering with its wings."—*White's Natural History of Selborne.* Letter xvi.

Here, on berry-bearing shoots,
Autumn trains delicious fruits,
In whose shade the moor-fowl breed,
And upon the vintage feed.
From low crags, and broken walls,
To his mate the black-cock calls;
Whilst their new-fledged coveys run,
Unaware of dog and gun.
Feathery ferns, like palm trees, spread
In a forest o'er my head;
Daisies, thyme, white clover, meet
On the greensward, at my feet;
On the rocks, the wild-briar rose
In its single beauty blows,
In its deepest crimson glows;
Speedwell, tinged with heavenly blue,
Eyebright, pearl'd with morning dew,
Maiden-pansy freakt with jet,
And her sister violet,
Grace the turf, round whose small blades
Glow-worms light the evening shades.
Every element is rife
With intensity of life;
Earth is throng'd with creeping things;
All the air alive with wings;
Gnats, like motes, in dazzling streams,
Gaily people the sunbeams,
Which the swallows in their play,
Sweep by hecatombs away.
Moths and butterflies, that show
All the colors of heaven's bow,
Flaunt and flutter to and fro.
O'er the pool's pellucid brim,
Glossy beetles wheel and skim;
While the water-spider's trace
Scarcely dimples its smooth face.
There, with glittering armour drest,
Plated scales, and helmet-crest,

Dragon-flies, in locust-forms,
Sport as harmlessly as worms.
Bees, to store their waxen cells,
Rifle honey buds and bells,
Provident of winter's need,—
Winter, which I never heed.
Ants their commonwealths arrange,
Molehills into mountains change,
And build cities in their wombs,
Palaces at once and tombs,
Where, as in the face of day,
Generations pass away.
But, could vulgar optics scan,
Hid from uninquiring man,
Nature's world invisible,
Wonders which no tongue can tell,
(Microscopic beings, more
Than the sands on ocean's shore,
Suddenly from darkness brought,
Like the universe from nought,)
—— Seeing would extinguish sight,
Blinded by excess of light!
Now of things that creep or fly,
Which is happier than I?
Deem not, then, my time misspent,
Idle and yet innocent,
Though I dance, and sing, and play,
Through my summer holiday.
All my blessings I enjoy,
All my faculties employ;
Few and feeble these may be,
Yet the eye of Deity,
Condescends to look on me,
While by instinct I fulfil
All His manifested will.
—— If an Insect's life be such,
Reader, canst thou say as much?

*James Montgomery.*

Hollway & Son Bath

# EXPLANATION OF THE MAP.

1. Gravel Walk, leading to Marlborough Buildings, &c.
2. The Queen's Gate, or City Entrance.
3. Centre Lawn facing the City Entrance.
4. Southern bank-side of the City Entrance.
5. Eastern side of Ditto.
6. Hand-Gate leading from the Circus and Gravel Walk.
7. Dell and Lawn back of Brock Street.
8. American, or Rhododendron Bed, &c.
9. Lime Tree Walk.
10. Small Dell adjoining.
11. Entrance to the Subscription Walk.
12. Brock-Street Entrance to the Park.
13. Royal Avenue.
14. Upper Lawn.
15. Eastern end of Ditto.
16. Western end of Ditto.
17. Lower Lawn.
18. Border or Belt of Lower Lawn.
19. Eastern end of Ditto.
20. Western end of Ditto.
21. Centre Gate leading to Subscription Walk, &c.
22. The Rivers Gate Entrance.
23. Marlborough Lane and Donkey Stand.
24. R. V. Park Gate.
25. Victoria Column or Obelisk.
26. Park Farm and Front Lawn.
27. Lower Lawn opposite.
28. Pathway to the Southern and Western boundary.
29. Grass Mound in the centre of the road.
30. Holly-bed.
31. Lawn opposite the Grass Mound.
32. Hand-Gate Entrance from the Upper Bristol road.
33. Lawn from hence to the Pond.
34. The Pond.
35. Stone Yard.
36. The adjoining Lawn.
37. Entrance from Park Lane.
38. Hand-Gate formerly leading to Griffin's Nursery.
39. Intended Carriage Entrance.
40. Pathway leading to Lower Dell.
41. Lower Dell.
42. Pathway leading from the Lower to the Upper Dell.
43. The Upper Dell.
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46. Hand-Gate to Weston road.
47. Lawn adjoining Upper boundary.
48. Upper boundary, Avenue, and Walk.
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# MANUAL FOR THE PARK.

## Class I. EXOGENÆ.

*Stems increasing from without; Leaves with reticulated Veins.*

### Sub-Class I. THALAMIFLORÆ.

*Flowers with Petals and Stamens, inserted in the Receptacle.*

#### Order I. RANUNCULACEÆ.

The Crow-Foot Tribe.

Character.—*Polypetalus,* with hypogynous *stamens*: *anthers* bursting by longitudinal slits; several distinct simple *carpella*; exstipulate *leaves,* sheathing at their base; solid *albumen;* and *seeds* without arillus. *(Lindl.)*

The plants of this order, as the name implies, have in their foliage and flowers, more or less the appearance of the Ranunculus or Crow-foot; which derives its name from *rana,* a frog, in allusion to the wet situations in which it is generally found. The Ranunculaceæ are chiefly herbaceous plants, but a few of them are somewhat woody. Natives of Europe, Asia, and North America. Their properties are acrid, caustic, and poisonous. Some of the species are highly ornamental.

## CLEMATIS. The Virgin's Bower.

*(Lin-Syst.* Polyandria Polygynia.)

Generic Character.—*Involucre* none, or situated under the flower, in the form of a calyx. *Calyx* of from 4—8 coloured sepals. *Petals* none. *Carpels* numerous, aggregate, terminated by a long, and mostly feathery, tail. *(Don's Mill.)*

*Derivation.*—From *klema*, the small branch of a vine; which is applied to it, because most of the plants composing it climb like a vine. The English name of Ladies' Bower was probably adopted from its suitableness for covering bowers; and as the first kind of Clematis brought to England (C. Viticella) was introduced in 1569, during the reign of Elizabeth, the name of Virgin's Bower might be intended to convey a compliment to that Sovereign, who, as it is well known, liked to be called the Virgin Queen, upon which Cowper observes—

"Why should not the virgin's friend
Be crown'd with virgin's bower?"

### 1. Clematis Flammula.

The sweet-scented Virgin's Bower.

Specific Character.—Leaves pinnate, smooth; with orbicular, oval, oblong, or linear, entire or 3-lobed, acutish leaflets. *(Don's Mill.)*

Habitat.—A deciduous climber. South of Europe; in hedges and waste bushy places, near the sea-coast, on calcareous soils.

Locality.—Wall in the Gravel walk and Horticultural garden. (It is very common in gardens.)

Description.—Height, 10—15 ft. Introd. 1596. Flowers white, sweet-scented; July to Oct. Fruit white, ripe in Oct. Leaves deep green, often remaining on the plants till mid-winter, and dying off black.

Observations.—A native of France, remarkable for its abundance of fragrant white blossoms, which are succeeded by cottony tufts composed of its seeds and their persistent styles, which resemble feathery tails. From its rapid growth and intense fragrance when in flower, it is well adapted for covering bowers, garden houses, trellis work, and naked walls. The wild Clematis, or common Traveller's Joy, seen in almost every hedge by the road-side, is the Clematis Vitalba. This, and the following species, trained round the trunks of some of the smaller trees, would be very ornamental.

## 2. Clematis montana.

### The Mountain Clematis.

Spec. Char.—Peduncles 1-flowered, not bracteated, several together. Leaves ternately parted, the segments ovate-oblong, acuminate, toothed, the teeth in the mode of incisions. Sepals elliptic-oblong, mucronulate, spreading. *(D. Don.)*

Hab.—A deciduous climber. Himalayan Mountains at 5000 ft. to 7000 ft. elevation.

Local.—Wall, Gravel walk.*

Descript.—Height 10—15 ft., or in sheltered situations 30—50 ft. Introd. 1831. Flowers white: April and May. Fruit white; ripe in August. Decaying foliage brown.

Obs.—A highly ornamental and very vigorous and rapid growing species, which soon covers a great extent of wall and of trellis work, and produces abundance of large white flowers in April and May. Flowers numerous, about the size and form of those of Anemone sylvestris, borne several together, each upon a separate, upright, slender peduncle, about three inches long. Sepals four, one inch long, pure white, faintly stained with pink outside at the base. Altogether, it is a most desirable species.

## Order II. PÆONIACEÆ.

### The Pæony Tribe.

Char.—The fruit or seed pods of the plants of this order, so closely resemble those of the Ranunculus, that they have been generally included under Ranunculaceæ; but they are now separated on account of the woody species differing so much in habit. They are at once distinguished from Clematideæ, by the character of the anthers opening to admit the escape of the pollen on the side *next* the ovaries, whereas in Clematideæ it is the reverse. The æestivation is also imbricate, and the carpels from one seeded to many seeded.

Suffruticose deciduous shrubs, of low growth, natives of temperate climates.

### PÆONIA. The Pæony.

*(Lin. Syst.* Polyandria Di-Pentagynia.)

Gen. Char.—*Calyx* of 5 leafy, unequal, permanent sepals. *Petals*, from 5—10, somewhat orbicular. *Stamens* numerous. *Disk* fleshy, girding the ovaries. *Carpels* follicular, from 2—5, large, many-seeded, terminated with thick bilamellate stigmas. *Seeds* rather globose, shining. *(G. Don.)*

*Derivation.*—From *Pæon*, the physician who first used it in medicine; or from Pœonia, a mountainous country of Macedonia, where some of the species grow wild.

### 3. Pæonia Moutan.

### The Moutan, *or Tree* Pæony.

Spec. Char.—Segments of leaves oval-oblong, glaucous underneath. Carpels 5, villose. (*Don's Mill.*)

Hab.—A deciduous suffrutescent bush. China.

Local.—Upper Lawn. (A fine specimen may be seen in the Lansdown Cemetery.)

Descript.—Height 3—10 ft. Introd. 1787. Flowers pink; May. Fruit brownish green; ripe in Sept. Decaying leaves brown or black.

Obs.—A most desirable and magnificent plant with its numerous varieties. Its flowers are large, rosy, or rosy and white, usually with a strong disagreeable smell. No plant can be a more gorgeous ornament of the garden or pleasure ground than this, abounding as it does in leaves striking from their branched character and numerous biternate or bipinnate segments, and in very magnificent flowers of extraordinary size; both leaves and flowers being produced early in the spring.

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## Order III. MAGNOLIACEÆ.

### The Magnolia Tribe.

Char.—*Calyx* of 3 deciduous sepals. *Corolla* of 3—12 petals, disposed in threes. *Anthers* adnate, elongated. *Carpels* numerous, disposed along a spiked axis. *Leaves* destitute of pellucid dots, stipulate when young. *Stipules* convolute, and enclosing the unexpanded leaves. *(G. Don.)*

This order contains the most splendid flowering trees in the British Arboretum, which are chiefly natives of N. America and Asia. They are mostly deciduous trees, but one is an evergreen tree, and some are shrubs. The greater part of them are somewhat tender, and thrive best against a wall. The bark of all the species is bitter, tonic, and aromatic; and in America it is used

for the same purpose as the Jesuit's bark, or quinquina, is in Europe.

## MAGNOLIA. The Magnolia.

*(Lin-Syst.* Polyandria Polygynia.)

Gen. Char.—*Calyx* of 3 deciduous sepals, that resemble petals. *Corolla* of from 6—9 petals. *Stamens* numerous. *Pistils* numerous. *Carpels* disposed compactly in spikes, opening by the external angle, 1—2 seeded, permanent. *Seeds* baccate, somewhat cordate, pendulous, hanging out beyond the carpels by a very long umbilical white thread. *(G. Don.)*

*Derivation.*—The name Magnolia was given to this genus by Linnæus, in honour of *Pierre Magnol*, professor of medicine, and prefect of the botanic garden at Montpelier.

### 4. Magnolia grandiflora.

The large-flowered Magnolia.

Spec. Char.—Evergreen. Leaves oval-oblong, coriaceous, upper surface shining, under surface rusty. Flowers erect, 9—12 petals, expanding. *(Don's Mill.)*

Hab.—A large evergreen tree. North Carolina.

Local.—Upper Lawn.

Descript.—Height 20—30 ft. Introd. 1737. Flowers white, fragrant; June to Sept. Strobile brown, with scarlet seeds; ripe in Oct. Decaying leaves yellow and orange, dropping in June. Young wood green.

Obs.—There are several varieties of this species in cultivation. It is a magnificent plant, and highly ornamental, and from the beauty

and size of the flowers, which somewhat resemble the white water-lily, (Nymphæa alba) as well as its large laurel-like leaves, is occasionally selected as a covering, trained against a wall or the front of houses and mansions of the opulent.

Var 1.—*M. g. exoniensis or ferruginea.* The Exmouth Magnolia.
Local.—Upper Lawn.

## 5. Magnolia glauca.

### The glaucous-*leaved* Magnolia.

Spec. Char.—Almost deciduous. Leaves elliptical, obtuse, under surface glaucous. Flower 9—12 petaled, contracted. Petals ovate, concave. (*Don's Mill.*)

Hab.—A shrub, or low tree, sometimes sub-evergreen, N. America, in swamps.

Local.—Upper Dell.

Descript.—Height 3—20 ft. Introd. 1688. Flowers white, 2—3 in. broad, very fragrant; June and Sept. Strobile brownish. Seeds deep scarlet; ripe in Oct. Decaying leaves yellow, brown, or black. Naked young wood green.

Obs.—A low tree, nearly evergreen in moist soils, with a slender stem, covered with a smooth whitish bark. In America it is known by the names of *white laurel*, *swamp sassafras*, and *beaver tree*. It has the last name, because the root is eaten as a great dainty by beavers; and this animal is caught by means of it. Kalen says, these trees may be discovered by the scent of the blossoms at the distance of three-quarters of a mile, if the wind be favorable. It is beyond description pleasant to travel in the woods at the flowering season, especially in the evening. The wood is made use of for joiners' planes.

## LIRIODENDRON. The Tulip Tree.

*(Lin-Syst.* Polyandria Polygynia.)

Gen. Char.—*Carpels* 1—2-seeded, disposed in spikes, indehiscent, deciduous, drawn out into a wing at the apex. *Calyx* of 3 deciduous sepals. *Corolla* of 6 petals, conniving into a bell-shaped flower. (*Don's Mill.*)

*Derivation.*—This tree is called Liriodendron, from *leirion*, a lily, and *dendron*, a tree; from the flowers resembling those of a lily, though more correctly those of a tulip, as the specific name implies. It is also called Saddle Tree, from the form of its leaves.

### 6. Liriodendron Tulipifera.

The Tulip Tree.

Spec. Char.—Leaves smooth, truncate at the top; 4-lobed, resembling a saddle in shape. Flowers large, solitary, terminal; variegated with green, yellow, and orange colour; furnished with two deciduous bracteas under flowers. (*Don's Mill.*)

Hab.—A smooth deciduous tree of large size. Canada to Florida.

Local.—Lawn near the Brock Street entrance, and opposite the pond.

Descript.—Height 50—140 feet. Introd. 1688. Flowers greenish yellow without, orange within; June and July. Strobile brown; ripe in Oct. Decaying leaves rich yellow and brown. Naked young wood smooth, and of a mahogany brown.

Obs.—It well deserves a place in every collection of trees, for the singularity and beauty of its foliage. In America the bark is considered equal to that of quinquina as an aromatic tonic and antiseptic. The timber is used in America for canoes, but is unfit for boards or planks, as it contracts and expands more than the wood of any other tree. In Evelyn's time this tree was called the Virginia poplar. The flowers, which are large, brilliant, and on detached trees very numerous, are variegated with different colours, among which yellow predominates. They have an agreeable odour, and surrounded by the luxuriant foliage, they produce a fine effect.

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## Order IV. BERBERACEÆ.

### The Berberry Tribe.

Char.—*Sepals* usually 6, in two whorls, deciduous, and furnished with petal-like scales on the outside. *Petals* and *stamens*, equal in number with the *sepals*, and opposite. The *anthers* open by reflexed valves. (*Lindl.*)

The species of this order are very ornamental shrubs, natives of Europe, Asia, or N. America. The wood and bark of most of them will dye yellow, and the fruit is generally edible, though very acid and astringent, and form, with sugar, an agreeable refreshing preserve. Their acid is the oxalic. The evergeen species are among the hardiest and handsomest shrubs in British gardens. The flowers are mostly yellow, and appear from May to August.

### BERBERIS. The Berberry.

*(Lin-Syst.* Hexandria Monogynia.)

Gen. Char.—*Sepals* 6, guarded on the outside by 3

scales. *Petals* 6, with 2 glands on the inside of each. *Stamens* toothless. *Berries* 2—3-seeded. *Seeds* 2, rarely 3, laterally inserted at the base of the berries, erect, oblong, with a crustaceous coat and fleshy albumen. *Cotyledons* leafy, elliptical. *Radicle* long, capitellate at the tip. (*Don's Mill.*)

*Derivation.*—The origin of the name is uncertain and doubtful, more than *Berberys* is the Arabic word used by Averhoes, and other writers on medicine.

The species are readily known from the mahonias by having simple leaves, for the most part deciduous.

### 7. Berberis vulgaris.

### The common Berberry.

Spec Char.—Spines 3-parted. Leaves somewhat obovate, ciliately serrated. Racemes many-flowered, pendulous. Petals entire. (*Don's Mill.*)

Hab.—A spreading, many-stemmed, deciduous shrub. Britain, in bushy places.

Local.—Eastern end of the Lower Lawn.

Descript.—Height 6—10 feet. Flowers yellow; May and June. Berries red; ripe in Sept. Decaying leaves reddish yellow. Naked wood yellowish white.

Obs.—There are many varieties of this species. It is at once an ornamental shrub, a fruit tree, a hedge plant, a dye, a drug, and a reputed enemy to the corn farmer. When covered with flowers in spring, or with fruit in autumn, it is a fine object. The fruit is so acid, that birds will seldom touch it; but it makes a good preserve, and an excellent jelly, and when pickled green, forms a substitute for capers. In Sweden, the berries are used instead of lemon for flavouring punch. The bark dyes yellow, and is so astringent that

in Poland it is used to tan leather and dye it yellow at the same time.

### 8. Berberis dulcis.

The sweet-*fruited* Berberry.

Spec. Char.—Spines long, slender, simple, or 3-parted. Leaves obovate, obtuse, with or without a bristly point, quite entire, glaucous on the under side. Flowers solitary, on slender stalks, twice as long as the leaves. (*Lindl.*)

Hab.—An evergreen shrub, with shining leaves. Straits of Magellan to Valdivia.

Local.—Border of the Lower Lawn.

Descript.—Height 2—5 ft. Introd. 1830. Flowers yellow; March to June. Berries round, black, about the size of a black currant; ripe in Aug. Decaying leaves bright yellow; dropping in May and June.

Obs.—It is perhaps the most elegant and beautiful small evergreen shrub we possess. The flowers are large, of a fine bright yellow, more expanded than they are in many species, and from their long slender stalks, they hang down in a very graceful manner, like small bells of gold. In its native country, the fruit is used, both green and ripe, as we use gooseberries, for making pies, and tarts, and preserves, for which it is most excellent. It is quite hardy and evergreen.

### 9. Berberis aristata.

The bristled-*tooth-leaved* Berberry.

Spec. Char.—Lower spines 3-parted, simple; leaves obovate-acute, tapering much to the base, ending in a

mucro (prickly point) at the apex, membranous, smooth on both sides, serrated, with 4 or 5 bristly teeth. Racemes nodding, many-flowered, longer than the leaves, berries oblong. (*Don's Mill.*)

Hab.—A vigorous-growing sub-evergreen shrub. Nepal, on Mountains.

Local.—Upper Dell, and at the base of the statue Jupiter.

Descript.—Height 6—10 ft. Introd. 1820. Flowers yellow; June and July. Berries purplish, with a fine bloom; ripe in Sept. Decaying leaves yellow and scarlet. Naked young wood, yellowish brown.

Obs.—A very fine hardy evergreen shrub, growing with extraordinary vigour, and capable of being formed into a very handsome small tree. The root and wood are of a dark yellow colour, and form the yellow wood of Persian authors; they are used as a dye, and being bitter and a little astringent, they as well as the bark, are employed in medicine. In Nepal, the fruit is dried, like grapes, for forming raisins, in the sun. A most desirable plant, calculated to produce a splendid effect, both when in flower or fruit, upon an open lawn. As a rapid grower, it ought not to be planted near slow-growing shrubs or trees.

## MAHONIA. The Mahonia.

*(Lin-Syst.* Hexandria Monogynia.)

Gen. Char.—*Sepals* 6, guarded on the outside by three scales. *Petals* 6, without glands on the inside. *Stamens* furnished with a tooth on each side at top of the filament. *Berries* 3—9-seeded. (*Don's Mill.*)

*Derivation.*—Named by Nuttall in honour of *Bernard M'Mahon*, a seedsman at Philadelphia, the author of the "American Gardener's Calendar," and an ardent lover of botanical science.

The Mahonia, or Ash Berberry, is known from the previous genus Berberris, by having compound leaves like the common Ash, and being for the most part evergreen. The species are natives of the N. W. coast of America, and also of Nepal and perhaps Japan.

### 10. Mahonia Aquifolium.

The Holly-leaved Mahonia, or *Ash Berberry.*

Spec. Char.—Leaves of 4 pairs of leaflets, with an odd one, the lower pair distant from the base of the petiole; leafllets ovate, approximate, cordate at the base, one-nerved, spiny-toothed, with 9 or 6 teeth on each side. Racemes erect, and much crowded. Filaments bidentate. (*Don's Mill.*)

Hab.—A shining evergreen shrub. New Albion to Nootka Sound.

Local.—Near the City entrance, by the railing, and frequent in the Park.

Descript.—Height 5—10 ft. Introd. 1823. Flowers yellow; April and May. Berries purple; ripe in Sept.

Obs.—An elegant evergreen shrub, and as hardy as the common holly. According to Dr. Lindley, it is "perhaps the handsomest hardy evergreen we yet possess." Its foliage is of a rich, deep, shining green, becoming purple in the winter; it bears fruit in some abundance, which consists of clusters of roundish black berries, having their surface covered with a rich violet bloom.

### 11. Mahonia repens.

The creeping-*rooted* Mahonia.

Spec. Char.—Leaflets 2—3 pairs, with an odd one,

roundish ovate, opaque, spiny-toothed. Racemes diffuse. Root creeping. Filaments bidentate.

Hab.—An evergreen undershrub. West coast of N. America, the Rocky Mountains.

Local.—Near the City entrance. Frequent.

Descript.—Height 1—2 ft. Introd. 1822. Flowers yellow; April and May. Berries purplish black; ripe in Sept.

Obs.—The shoots consist chiefly of short unbranched suckers, with the leaves somewhat glaucous on both surfaces. The racemes of flowers are terminal, numerous, fascicled, diffuse, rising from scaly buds. The plant in British gardens is perfectly hardy, and produces a profusion of rich yellow flowers in April and May.

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## Order V. CISTACEÆ.

### The Rock-Rose Tribe.

Char.—*Sepals* 5, two of them being exterior. *Petals* 5, very fugitive. *Stamens* numerous. *Fruit* capsular, 3—5 valved, 5—10 celled, with parietal placentæ. *Embryo* inverted. Properties balsamic. (*Lindl.*)

The Cistàcæ are low shrubs, for the most part rather tender, but having large, showy, delicate, evanescent flowers, principally used for ornamenting rockwork; natives of Europe. They all thrive best in dry soil, among rocks or stones, and flower freely from June to Sept. Their properties are resinous and balsamic, but of no medical use.

## CISTUS. The Rock Rose.

*(Lin-Syst.* Polyandria Monogynia.)

Gen. Char.—*Calyx* of 5 sepals. *Sepals* disposed in a double series; 2 outer ones unequal, sometimes wanting. *Petals* 5, equal, somewhat cuneated, caducous. *Stamens* numerous, usually exserted from the glandular disk. *Style* filiform. *Stigma* capitate. *Capsule* covered by the calyx, 5 or 10-valved, with a seminiferous partition in the middle of each valve, therefore 5 or 10-celled. *Seeds* ovate, angular. *Embryo*, filiform, spiral. (*G. Don.*)

*Derivation.*—From the Greek word *kiste*, a box or capsule, or the Anglo-Saxon *cist*, a hollow vessel; on account of the shape of its capsules.

### 12. Cistus laurifolius.

The Laurel-leaved Cistus.

Spec. Char.—Leaves stalked, ovate-lanceolate, 3-nerved, upper surface glabrous, under surface tomentose. Footstalks dilated, and connate at the base. Capsules, 5-celled. (*Don's Mill.*)

Hab.—A sub-evergreen bush. S. France and Spain.

Local.—Near the Lime-tree walk. Frequent.

Descript.—Height 4—5 ft. Introd. 1771. Flowers large, white, with light red bracteas; July and Aug. Capsule brown; ripe in Oct.

Obs.—A very robust species, with large green laurel-like leaves. It produces an abundance of flowers, which, with their light red

bracteas, are very ornamental before they expand, resembling, at a distance, the bursting buds of roses.

### 13. Cistus ladaniferus.

The Ladanum, bearing *Gum* Cistus.

Spec. Char.—Leaves almost sessile, connate at the base, linear-lanceolate, 3-nerved, upper surface glabrous, under surface tomentose. Capsule, 10-celled. Petals, imbricate. (*Don's Mill.*)

Hab.—A sub-evergreen shrub. Spain and Portugal, on hills.

Local.—

Descript.—Height 4—5 ft. Introd. 1629. Flowers large, white, 1—2 in. broad; June and July. Capsule, brown; ripe in Sept.

Obs.—This is the most popular species for warm situations in ornamental scenery. The leaves are lanceolate, and nearly sessile, of a deep green; the flowers terminating the branches, solitary, white, and large. It produces the gum ladanum, but not in such quantities as C. creticus, which is used in fumigations, from its fragrant smell. The resin, or gum, is secreted from the leaves and other parts of the plant, which is scraped off by means of a peculiar instrument adapted for the purpose.

Var. 1. *C. l. maculatus* is a plant of very great beauty, and no collection should be without it. *Local.*—

### 14. Cistus cyprius.

The common *Gum* Cistus, *or* Cyprus *Rock Rose.*

Spec. Char. — Leaves stalked, oblong-lanceolate, upper surface glabrous, under surface clothed with hoary

tomentum. Peduncles, generally many-flowered. Petals spotted. Capsules, 5-celled. (*Don's Mill.*)

Hab.—A splendid sub-evergreen shrub. Island of Cyprus.

Local.—*

Descript.—Height, 5—6 ft. Introd. 1800. Flowers white, 2—3 in. across, imbricated, each petal having a dark rich brownish crimson spot at the base; June and July. Capsule brown; ripe in Sept.

Obs.—This is one of the handsomest species of the genus, and so closely resembling Cistus ladaniferus, as probably to be but a variety of it. In the nurseries it is generally found under that name or that of C. salicifolius, and is more generally in demand than any other.

### 15. Cistus salviæfolius.

### The Sage-leaved Cistus.

Spec. Char.—Leaves stalked, ovate, obtuse, wrinkled, under surface tomentose. Peduncles long, white from tomentum, 1-flowered, articulated above, solitary or ternary. *(Don's Mill.)*

Hab.—A sub-evergreen branchy shrub. S. Europe.

Local.*

Descript.—Height 2 ft. Introd. 1548. Flowers small, white; June and July. The leaves are of a whitish or pale green colour; and, like every other part of the plant, are covered with numerous short hairs.

Obs.—It is readily distinguished from other species by its solitary, 1-flowered, jointed peduncles, and its obtuse leaves. It is very hardy; and in sheltered situations will endure the winter without any protection. The sage-like leaves and neat flowers of this species give it a very pleasing appearance.

## HELIANTHEMUM. The Sun Rose.

*(Lin. Syst.* Polyandria Monogynia.)

Gen. Char.—*Calyx* of 3—5 sepals; the two outer usually smaller than the inner ones, rarely larger. *Petals* 5, usually regularly denticulated at the top. *Stigma* capitate. *Style* sometimes almost wanting, sometimes straight, oblique or bent at the base. *Ovary* triquetrous. *Capsule* 3-valved. *Seeds* angular, smooth. *(G. Don.)*

*Derivation.*—From *helios*, the sun, and *anthemon*, a flower; because the flowers open with the rising of the sun in the morning, and the petals fall off with the setting of the sun in the evening.

### 16. Helianthemum vulgare.

The common Helianthemum, *or Sun Rose.*

Spec. Char.—Stem suffruticose, procumbent, branched, branches elongated. Leaves scarcely revolute at the margins; under surface cinereously hoary; upper surface green, pilose, somewhat ciliated. Lower leaves somewhat orbicular, middle ones ovate-elliptical, upper ones oblong. Stipules oblong-linear, ciliated, longer than the footstalks of the leaves. Racemes loose. Pedicels and calyxes pilose. *(Don's Mill.)*

Hab.—A procumbent sub-evergreen under shrub. Britain, in dry and hilly pastures.

Local.—Rock work at the base of the statue Jupiter.

Descript.—Height 6—12 inches. Flowers yellow; May to Sept.

Obs.—A very variable, though ornamental species, and its varieties with orange, yellow, straw-colored, red, and double flowers are

well adapted for rockwork. The stamens, if touched during sunshine, spread slowly, and lie down upon the petals. The flowers of Helianthemum, as well as of Cistus, only last for a few hours when the sun shines; and if the weather is dull, and the sun does not make its appearance, the flowers do not open, but remain unexpanded. Should this continue for several days together, they will decay in the bud. The beautiful lines of Mrs. Hemans, in her "Dial of Flowers," alluding to the Floræ Horologiæ of Linnæus, may not be inappropriate here.

"'Twas a lovely thought to mark the hours,
As they floated in light away,
By the opening and the folding flowers,
That laugh to the summer's day.

"Thus had each moment its own rich hue,
And its graceful cup or bell,
In whose coloured vase might sleep the dew,
Like a pearl in an ocean shell.

"To such sweet signs might the time have flow'd
In a golden current on,
Ere from the garden, man's first abode,
The glorious guests were gone.

"Yet is not life, in its real flight,
Mark'd thus—even thus—on earth,
By the closing of one hope's delight,
And another's gentle birth?

"Oh! let us live, so that flower by flower,
Shutting in turn, may leave
A lingerer still for the sunset hour,
A charm for the shaded eve."

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## Order VI. MALVACEÆ.

### The Mallow Tribe.

Char.—*Calyx* with a valvate æstivation, mostly with an involucre. *Stamens* with the filaments monadel-

phous, and the anthers 1-celled. *Pubescence* starry. *(Lindl.)*

Mallow-like plants, of which a few are hardy shrubs, deciduous; natives of Syria. They abound in mucilage, and hence have emollient and demulcent properties.

## HIBISCUS. The Hibiscus.

*(Lin. Syst.* Monadelphia Polyandria.)

Gen. Char.—*Calyx* encompassed by a many-leaved, rarely by a few-leaved, involucel, or one with its leaves connate. *Petals* not auricled. *Stigmas* 5. *Carpels* joined into a 5-celled 5-valved capsule, with a dissepiment in the middle of each valve on the inside. *Cells* many-seeded, rarely 1-seeded. *(G. Don.)*

*Derivation.*—The word *hibiskos*, is one of the names given by the Greeks to the mallow.

### 17. Hibiscus syriacus.

The Syrian Hibiscus, or *Althæa Frutex.*

Spec. Char.—Stem unarmed, arboreous. Leaves ovate, wedge-shaped, 3-lobed, toothed. Pedicels hardly longer than the leaves. Involucel 6—7 leaved. (*Don's Mill.*)

Hab.—A deciduous shrub. Syria.

Local.—Lawn near the Obelisk and upper boundary.

Descript.—Height 6 ft. Introd. 1596. Flowers large, single or double, white, red, purple, or variegated; Aug. and Sept. Capsule greenish brown; ripe in Oct. Decaying leaves yellowish green. Naked wood white.

Obs.—This is one of our most ornamental hardy shrubs, and from their large, showy, white, purple, red, or variegated flowers, are the more valuable as they appear in Aug. and Sept., when most other shrubs are out of bloom. It is also a free-flowerer, will grow in common garden soil, and propagates freely by seeds, layers, and even by cuttings.

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## Order VII. TILIACEÆ.

### The Linden, or Lime-Tree Tribe.

Char.—*Sepals* 4—5, with a valvate æstivation, mostly without an involucre. *Petals* 4 or 5, or rarely not any. *Stamens* hypogynous, generally numerous, with filaments separate, and anthers 2-celled. Mostly *glands* between the petals and ovarium. *Ovary* and *fruit* single, of 4—10 carpels grown together; cells in the fruit, at least in some, not so many as the carpels. *(Lindl.)*

The Tiliaceæ are large trees, of which there are only two species; the common Lime Tree, a native of Europe, from the inner bark of which bast mats are made; and the American Lime Tree, remarkable for its large leaves: it is somewhat tender in British gardens. They have all a mucilaginous, wholesome juice.

### TILIA. The Lime Tree.

(*Lin. Syst.* Polyandria Monogynia.)

Gen. Char.—*Calyx* 5-parted. *Petals* 5. *Stamens* numerous, free, or somewhat polyadelphus. *Ovary* globose, villous, 1-styled, 5-celled; cells 2-ovuled. *Nut*

coriaceous, 1-celled, 1—2-seeded, from abortion. (*Don's Mill.*)

*Derivation.*—By some Tilia is derived from the Greek word *ptilon*, a feather, from the feathery appearance of the bractea; but others derive it from the Greek word *tilai*, light bodies floating in the air like wool or feathers.

The species are graceful trees, with highly odoriferous flowers, and a remarkable bractea attached to the peduncle of each of the cymes of flowers. All the soft parts abound in mucilage and saccharine matter.

### 18. Tilia europæa.

### The European, or *common*, Lime Tree.

Spec. Char.—Petals without scales. Leaves cordate, acuminated, serrated, smooth, except a tuft of hair at the origin of the veins beneath, twice the length of the petioles. Cymes many-flowered. Fruit coriaceous, downy. (*Don's Mill.*)

Hab.—A large deciduous tree. Europe, and Britain in some aboriginal woods.

Local.—From the City entrance, on the left, near the Subscription walk, there are 10 in a row, forming a beautiful shade to the pedestrian. Frequent.

Descript.—Height 60—90 feet. Flowers yellowish white; July and Aug. Fruit yellow; ripe in Oct. Decaying leaves yellow, or yellowish brown. Naked young wood reddish, or yellowish brown.

Obs.—The Lime Tree is much in use for shady walks and avenues, for which it is well adapted from its graceful foliage, and highly odoriferous flowers. Its wood being soft, light, smooth, close-grained, and not subject to the worm, is used by piano-forte makers for sounding-boards, and by cabinet makers for a variety of purposes. It is carved into toys, and turned into domestic utensils of various kinds, and into small boxes for the apothecary. The most elegant

use to which it is applied is for ornamental carving, for which it is superior to any other wood. With the twigs, baskets and cradles are made. Ropes and bast mats are also made from the bark, as well as nets for catching fish by the Swedish fishermen. The sap affords a considerable quantity of sugar, and the honey produced by the flowers, is considered superior to all other kinds for its delicacy. Indeed, its uses are so numerous that it must be considered one of the most valuable of trees.

Var. 1. *T.e. laciniata.*—The cut leaved European Lime tree, has the leaves deeply and irregularly cut and twisted, scarcely two on the tree being alike. Local.—City entrance, and Eastern side of the Lower Lawn.

### 19. Tilia (eur.) alba.

### The white-*leaved* European Lime Tree.

Spec. Char.—Petals each with a scale at the base inside. Leaves cordate, somewhat acuminated, and rather unequal at the base, serrated, clothed with white down beneath, but smooth above, 4 times longer than the petioles. Fruit ovate, with 5 obscure ribs. *(Don's Mill.)*

Hab.—A large tree. Hungary.

Local.—Left hand side immediately before entering the Royal Victoria Park Gate.

Descript. — Height 30 — 50 feet. Introd. 1767. Flowers yellowish white, very fragrant; June to Aug. Fruit yellow; ripe in Oct.

Obs.—Named also Tilia argentea, from the silvery whiteness of the under surface of its leaves. Some Botanists consider this lime only a variety of the Tilia europæa, but however that may be, the fact of its having scales to its petals, and the leaves being clothed underneath with a snow-white down, so totally different from the common lime, justifies its separation. The tree is at once distinguishable from all the other species and varieties by this white

appearance, even to a considerable distance, and by the strikingly snowy hue of its leaves when they are ruffled by the wind. Its wood and shoots somewhat resemble those of the common lime, though it does not attain the same height. The bark is of a smooth and purplish colour, and may be recognised by that alone.

### 20. Tilia americana.
### The American Lime Tree.

Spec. Char.—Petals each with a scale at the base inside. Leaves profoundly cordate, abruptly acuminate, sharply serrated, somewhat coriaceous, smooth. Petals truncate and crenate at the apex, equal in length to the style. Fruit ovate, somewhat ribbed. *(Don's Mill.)*

Hab.—A large tree. N. America.

Local.—

Descript. — Height 60 — 80 ft. Introd. 1752. Flowers yellowish white; July and Aug. Fruit the size of a large pea, yellow; ripe in Oct. Decaying leaves yellowish brown. Naked young wood dark brown.

Obs.—The European and American species differ, in the former having regularly cordate, and the latter obliquely cordate leaves, as well as in their largeness, which are 3—4 inches wide, heart-shaped, acutely pointed, coarsely and mucronately serrated, deep green and glabrous on their upper sides, and pale green beneath.

Var. 1. *T. a. alba.* The white-leaved American Lime tree. Local.—

In this and the following variety the under surface of the leaves are thinly pubescent, very pale, but scarcely white.

Var 2. *T. a. alba pendula.* The white-leaved American Weeping Lime Tree. Local.—Centre Lawn facing the City entrance.

The under surface of its leaves is very pale or whitish colour; it forms a most ornamental pendulous tree, grafted on stems 8—9 ft. in height.

## Order VIII. HYPERICACEÆ.

### The Tutsan Tribe.

Char.—*Sepals* 4 or 5, unequal, with an imbricate æstivation. *Stamens*, in nearly all, numerous, and in 3 or more parcels. *Fruit*, a capsule or berry of many valves and cells; the edges of the valves curved inwards. *Seeds* attached to a placenta in the axis, or on the inner edge of the dissepiments. *(G. Don.)*

Low sub-evergreen shrubs, with yellow flowers, from June to August, and the leaves usually full of pellucid dots. Natives of Europe, N. America, and Asia. Their properties are usually purgative and febrifugal; but some are tonic and astringent.

### HYPERICUM. The St. John's Wort.

(*Lin. Syst.* Polyadelphia Polyandria.)

Gen. Char.—*Capsules* membranous. *Stamens* numerous, free or joined at the bases into 3 or 5 bundles. *Petals* 5. *Sepals* 5, more or less connected at the base, unequal, rarely equal. *Styles* 3—5, rarely connate in one, permanent. *Capsule* 1, or many-celled, many seeded, 3—5 valved. Integument of *seed* double. *Embryo* with the radicle situated at the umbilicus, and with semicylindrical cotyledons. *(Don's Mill.)*

*Derivation.*—Origin and meaning of the name uncertain.

#### 21. Hypericum elatum.

#### The tall St. John's Wort.

Spec. Char.—Younger stems reddish. Leaves ovate-

oblong, acute, dilated at the base, somewhat emarginate, with the margins somewhat revolute. Flowers corymbose. Peduncles bibracteate. Sepals ovate-oblong.—*(Don's Mill.)*

Hab.—A sub-evergreen shrub. N. America.

Local.—Upper Lawn. Frequent.

Descript.—Height 3—5 ft. Introd. 1762. Flowers yellow; July and Aug. Capsule reddish brown; ripe in Oct. Decaying leaves yellowish.

Obs.—This species is very bushy, and prolific in yellow flowers, which appear for several months till the middle or latter end of autumn, and is very useful for the fronts of shrubberies. It is moreover valuable for its thriving under the shade and drip of trees.

### 22. Hypericum calycinum.
### The *large*-calyxed St. John's Wort.

Spec. Char.—Stem tetragonal, dwarf. Leaves, ovate, coriaceous, broad, full of pellucid dots. Flowers large, terminal, solitary. Sepals large, obovate, spreading; capsule, nodding. *(Don's Mill.)*

Hab.—An evergreen under-shrub. West of Ireland and Scotland in bushy places.

Local.—By the railing, eastern side of the City entrance.

Descript.—Height 1—1½ ft. Flowers large, of a bright golden yellow, with numerous reddish tremulous anthers; June to Sept. Capsule reddish brown; ripe in Oct.

Obs.—A beautiful little evergreen under shrub, with dark green shining leaves. It is a great ornament to shrubberies and parks, and

is very valuable as affording an excellent shelter for game, and for its thriving and rapidly spreading under the shade and drip of trees. Hence its utility for covering bare and unsightly spots in shrubberies and plantations, where it should be always cultivated, and planted alternately with the Vinca major, the contrast of the two, blue and yellow flowers being attractive if not showy, as the two political antagonistic colours, though living in harmony together. It is moreover, very hardy, and may be readily increased by division to any extent.

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## Order IX. ACERACÆ.

### The Sycamore Tribe.

Char.—*Flowers* either unisexual or bisexual. *Calyx* and *corolla* equal in the number of their parts, with an imbricated æstivation; the corolla sometimes absent. *Petals* without appendages. *Stamens* inserted upon a disk, which arises from below the pistillum, not agreeing in number with the divisions of the calyx and corolla. *Pistillum* 2-lobed, each lobe having a wing at its back. *Style* 1. *Stigmas* 2. *Fruit* formed of 2 samaræ, or keys, each containing 1 cell, and 1 erect seed. *Embryo* curved, with leafy shrivelled cotyledons, and no albumen. (*Lindl.*)

Deciduous trees or shrubs, with lobed or pinnate leaves, natives of Europe, N. America, and Asia; very beautiful at every season of the year, more especially when the leaves are expanding in Spring and changing colour in Autumn. The flowers are yellow, and the fruit is called a key. The genera are Acer and Negundo. Their properties are saccharine, the trees yield light and useful timber. From Acer saccharinum,

the Sugar Maple, sugar is extracted in abundance, supplying the maple-sugar of America.

## ACER. The Maple.

*(Lin. Syst.* Polygamia Monœcia.)

Gen. Char.—*Sexes* hermaphrodite, or monœciously polygamous. *Flowers* with a calyx and corrolla. *Calyx* divided into 5 parts, or some number between 4 and 9. *Petals* the same in number. *Stamens* 8, or some number between 5 and 12. *Anthers* 2-lobed. *Carpels* 2, very rarely 3, each a samara ; that is, a fruit which is called in Britain, vernacularly, a key. *(G. Don.)*

*Derivation.*—From *acer*, hard or sharp, derived from *ac*, Celtic, a point. The name is supposed to be applied to this genus because the wood of some species is extremely hard, and was formerly much sought after for the purpose of making pikes and lances.

### 23. Acer striatum.

The striped-*barked* Maple.

Spec. Char.—Leaves cordate, 3-lobed, acuminated, finely and acutely serrated. Racemes pendulous, simple. Petals, oval. Fruit smooth, with the wings rather diverging. *(Don's Mill.)*

Hab.—A deciduous tree. Canada to Georgia.

Local.—Border of the Lower Lawn, western side of the centre gate.

Descript. — Height 8 — 20 feet. Introd. 1755. Flowers yellowish green, on long peduncles ; May. Keys brown, and remarkable for a cavity on one side of the

capsules; ripe in Aug. Decaying leaves yellowish green. Naked young wood green, striped with white and black.

Obs.—The Striped-barked Maple, or the Snake-barked Maple, of America, is so called from the black and white stripes on its bark, which readily distinguishes it at all seasons of the year. It is hence very ornamental, and from its great beauty, deserves a place in every collection. The buds and leaves, when beginning to unfold, are rose-coloured, and the leaves, when fully expanded, are of a thick texture, and finely serrated, and not liable to insects. The boughs also are of a shining red in winter.

### 24. Acer macrophyllum.

The long, or *large*, leaved Maple.

Spec. Char.—Leaves digitately 5-lobed, with roundish recesses. Lobes somewhat 3-lobed, repandly toothed, pubescent beneath. Racemes compound, erect. Stamens 9, with hairy filaments. Ovaries very hairy.—(*Don's Mill.*)

Hab.—A deciduous tree of large size. N. America.

Local.—South side of the road near the pond.

Descript.—Height 40 — 90 feet. Introd. 1826. Flowers yellow, fragrant; April and May. Keys brown; ripe in Sept. Decaying leaves yellowish brown. Naked young wood brown. Buds green.

Obs.—A vigorous-growing, very handsome tree, with large and beautiful leaves, nearly 1 foot broad. The wood is soft and whitish, but beautifully veined, exhibiting a grain scarcely inferior in beauty to the finest satin wood. It promises to form a most valuable addition to our ornamental, and possibly to our timber trees. It cannot be too warmly recommended to the attention of planters.

### 25. Acer platanoides.

The Platanus-like, or *Norway*, Maple.

Spec. Char. — Leaves cordate, smooth, 5-lobed. Lobes acuminated, with a few coarse acute teeth. Corymbs stalked, erectish, and, as well as the fruit, smooth. Fruit with divaricated wings. *(Don's Mill.)*

Hab.—A deciduous tree, above the middle size. Norway to Switzerland.

Local.—Lawn midway between the Obelisk and Pond.

Descript.—Height 30—60 feet. Introd. 1683. Flowers rich yellow; April and May. Keys brown; ripe in Sept. and Oct. Leaves in Spring and Autumn bright yellow. Naked young wood smooth, brown.

Obs.—A handsome tree. The leaves are thin, green on both sides, and shining. When the petiole is broken, an acrid milky sap issues from it, which coagulates with the air. The wood is easily worked, takes a fine polish, and absorbs and retains all kinds of colours. It may be used for all the various purposes of the wood of the common sycamore. Sugar is made from the sap in Norway, Sweden, and Lithuania.

Var. 1. *A. p. Lobelii.* Lobel's Platanus-like Maple. A very handsome variety with a delicate bloom on the young wood, which, when older, becomes striped somewhat in the manner of A. striatum. It is said to be one of the most beautiful Acers in cultivation. Local.—

Var 2. *A. p. laciniatum.* The Eagle's Claw, or Hawk's Foot Maple; with the leaves deeply and variously cut. A very beautiful variety and highly ornamental. Local.—Border of the Lower Lawn.

### 26. Acer Pseudo-Platanus.

The Mock Plane Tree, *the Sycamore, or Great Maple.*

Spec. Char.—Leaves cordate, smooth, with 5 acumi-

nated, unequally toothed lobes. Racemes pendulous, rather compound, with the rachis, as well as the filaments of stamens, hairy. Fruit smooth, with the wings rather diverging. (*Don's Mill.*)

Hab.—A deciduous tree of large size. Europe and Britain, in wooded mountainous situations.

Local.—Near the Lower Dell and upper boundary.

Descript.—Height 30—80 feet. Flowers greenish yellow, mostly hermaphrodite; May and June. Keys reddish brown; ripe in Oct. Decaying leaves brown, with dark blotches. Naked young wood reddish brown. Buds large, green, or tinged with red.

Obs.—This species is very rapid in its growth and remarkably hardy. It is in leaf by the middle of April; and on their first appearance the leaves are of a pleasant green, but they exude a clammy juice so abundantly that they attract a variety of insects, which soon perforate and disfigure them. The wood, which is white and soft, is used in joinery and turnery, and cabinet-making; by musical instrument makers; for cider-presses; and sometimes for gun-stocks. As an ornamental tree it produces the best effect, either singly or in groups of two or three, placed sufficiently near to form a whole, but not so as to touch each other, and in rows or avenues. The tree which overshadows the grave of the poet Cowper, in the churchyard at Dereham, in Norfolk, is of this species.

Var. 1. *A. p. flavo variegata.* The yellow-variegated-leaved Sycamore, or Corstorphine Plane. A splendid tree in May, when the leaves first expand, being very ornamental; but their leaves are almost always more or less imperfect, especially on the edges, and fall off much sooner in the autumn than those of the species. Local.—Stone yard and upper boundary.

### 27. Acer circinatum.

### The round-*leaved* Maple.

Spec. Char.—Leaves orbicular, rather cordate at

the base, 7-lobed, smooth on both surfaces; lobes acutely toothed; nerves and veins hairy at their origin. (*Don's Mill.*)

Hab.—A deciduous tree of the middle size. N. America.

Local.—

Descript.—Height 20—40 ft. Introd. 1826. Flowers with the sepals purple, and the petals white; April and May. Keys purplish brown. Decaying leaves of a fine reddish yellow. Naked young wood reddish brown.

Obs.—A very beautiful species, with the leaves plicate, and with the bark of a fine reddish tinge, distinguishable at sight by the regular form of its leaves, and their pale reddish green colour. It well deserves a place in every collection.

### 28. Acer eriocarpum.

The hairy-fruited, or *white*, Maple; or Sir Charles Wager's Maple.

Spec. Char.—Leaves truncate at the base, smooth and glaucous beneath, palmately 5-lobed, with blunt recesses, and unequally and deeply toothed lobes. Flowers conglomerate, on short pedicels, apetalous, pentandrous. Ovaries downy. (*Don's Mill.*)

Hab.—A middle-sized tree. N. America.

Local.—Border of the Lower Lawn, and bank-side Upper Dell, by the paling.

Descript.—Height 30—50 ft. Introd. 1725, by Sir Charles Wager. Flowers small, pale yellowish purple; March and April. Keys brown; ripe in July.

Obs.—One of the handsomest and most desirable species of the genus; from the rapidity of its growth, the graceful divergent direction of its branches, the beauty of its leaves, and the profusion of its early flowers. In mild seasons these flowers begin to burst from their buds in the first week in January, and they are often fully expanded by the end of February or beginning of March. It is also very hardy, and from its seeding freely, endless varieties may be obtained.

### 29. Acer rubrum.

### The red-*flowering, or scarlet* Maple.

Spec. Char.—Leaves cordate at the base, glaucous beneath, deeply and unequally toothed, palmately 5-lobed, with acute recesses. Flowers conglomerate, 5-petaled, pentandrous. Ovaries smooth. (*Don's Mill.*)

Hab.—A large tree with numerous divergent slender branches. Canada to Florida.

Local.—

Descript.—Height 30—60 feet. Introd. 1656. Flowers small, dark red, appearing a fortnight before the leaves; March and April. Keys brown; ripe in Sept.

Obs.—Distinguished at sight from A. eriocarpum by the leaves being much less cut, and less white beneath, and by the tree being generally less vigorous. The red-flowered Maple, whether we regard the beauty of its flowers and opening leaves in early spring, its red fruits in the beginning of summer, or its red foliage in autumn, deserves to be considered one of the most ornamental of hardy trees. The leaves die off an intense red, dark purple, or rich yellow, and at a distance, in a fine autumn, when the sun shines, glows like a blaze of fire.

### 30. Acer campestre.

### The *common*, or Field, Maple.

Spec. Char.—Leaves cordate, with 5 toothed lobes.

Racemes erect. Wings of fruit much divaricated. *(Don's Mill.)*

Hab.—A low tree or shrub. Britain.

Local.—*

Descript.—Height 15—40 feet. Flowers yellowish green; May and June. Keys brown; ripe in Sept. Decaying leaves yellow. Naked young wood pale brown. Bark corky and full of fissures.

Obs.—This species forms a very picturesque little tree, and the timber is said to be far superior to that of the beach or the sycamore for the purposes of the turner. It is frequently substituted for that of the holly and box, by the mathematical instrument maker. The wood is compact, of a fine grain, sometimes beautifully veined, and takes a high polish. It was celebrated among the ancient Romans for tables. The roots are frequently knotted; and when that is the case, it is used for the manufacture of snuff boxes, pipes, and other fanciful productions. It also makes excellent fuel, and the very best charcoal.

## NEGUNDO. The Negundo, *or* Box Elder.

(*Lin. Syst.* Dicœcia Pentandria.)

Gen. Char.—*Sexes* dicœcious. *Flowers* without a corolla. *Calyx* with 4 — 5 unequal teeth. *Male flowers* upon thread-shaped pedicels, and disposed in fascicles; *anthers* 4—5, linear, sessile. *Female flowers* disposed in racemes (*Dec. Prod.*)

*Derivation.*—Meaning of the word unknown.

### 31. Negundo fraxinifolium.

The Ash-leaved Negundo.

Spec. Char.—Leaves of from 3 — 5 leaflets, the

opposite ones coarsely and sparingly toothed, the odd one oftener 3-lobed than simple. (*Dec. Prod.*)

Hab.—A deciduous tree, of the middle size. Canada to Carolina.

Local.—By the stone yard. This tree is the *female* plant, and at the upper boundary, on the lawn, is the *male* plant.

Descript.—Height 30—40 feet. Introd. 1688. Flowers yellowish green, appearing with the leaves; April. Keys brown; ripe in Aug. Decaying leaves of a rich yellow. Naked young wood smooth, and of a fine pea green.

Obs.—A rapid growing tree; very ornamental, from its compound leaves, and the fine pea-green of its young shoots, which are gracefully displayed upon every breeze of air. It branches at a short distance from the ground, and forms a loose and wide spreading head of great beauty. In N. America it is called the Black Ash. The male plant is perhaps the most beautiful of the two, and should be more cultivated for pleasure grounds than it is.

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## Order X. ÆSCULACEÆ.

### The Horse-Chestnut Tribe.

Char.—*Calyx* campanulate, 5-lobed. *Ovary* roundish, trigonal. *Seeds* large and globose; albumen wanting. *Embryo* curved, inverted; with fleshy, thick, gibbous cotyledons, not produced above ground in germination. *Plumule* large, 2-leaved. (*G. Don.*)

Deciduous trees with palmate leaves, and conspicuous highly-ornamental flowers, which appear in May. Natives of N. America and Asia. The genera are

Æsculus and Pavia; the former characterized by having the fruit rough, and the latter by having it smooth. The nuts contain a great quantity of starch, which renders them nutritive. The bark of the common Horse-Chestnut is bitter, astringent, and febrifugal.

## ÆSCULUS. The Horse-Chestnut.

(*Lin. Syst.* Heptandria Monogynia.)

Gen. Char.—*Calyx* campanulate. *Petals* 4—5, expanded, with an ovate border. *Stamens* with the filaments recurved inwardly. *Capsules* echinated. *Leaflets* sessile, or almost sessile. (*Don's Mill.*)

*Derivation*—The word Æsculus is derived from *esca*, nourishment; and Hippocastanum from *hippos*, a horse, and *castanea* a chesnut; because it was formerly a veterinary medicine.

### 32. Æsculus Hippocastanum.

The *common* Horse-Chestnut.

Spec. Char.—Leaflets 7, obovately cuneated, acute, and toothed.

Hab.—A large deciduous tree. Asia and N. America.

Local.—"The Royal Avenue," one side of which is formed by it.

Descript.—Height 50—60 feet. Introd. 1629. Flowers white, tinged with red; May. Fruit brown; ripe in Oct. Decaying leaves dark brown. Naked young wood brown. Buds long, large, greenish brown, covered with resin. (Miss Kent observes, that "we cannot have a better specimen of the early formation of plants in the bud, than that of the horse-chestnut.")

Obs.—It is a magnificent tree, at once grand from its magnitude and massy form; and beautiful when in blossom, from being covered with spikes of delicate white and pink flowers, protruding from among elegant digitate leaves. Daines Barrington calls a horse-chestnut tree in flower a giant's nosegay, and Miss Kent a Brobdignagian lupine. It is a rapid growing tree, and speedily produces a considerable bulk of timber, which, however, is of little value as such. The plant is best adapted for an ornamental tree in the outskirts of plantations, in avenues, or singly on lawns. The nuts or capsules are large and mahogany coloured, and have often occasioned regret that they are not edible, like those of the Spanish chestnut. Dear eat them greedily, and may be seen watching about the trees for their fall during windy weather. Bruised they are said to be good food for sheep, improving the flavour of the mutton, and if for this reason only might be turned to good account in parks and pasture land.

Var. 1. *Æ. H. laciniatum.* Local.—Near the Holly-bed, western side of the Obelisk.

## 33. Æsculus (H.) rubicunda.

### The reddish-*flowered Horse-Chestnut.*

Spec. Char.—Petals 4, with the claws shorter than the calyx.

Hab.—A deciduous tree, below the middle size. N. America.

Local.—Upper and Lower Lawn, and near the Royal Victoria Park Gate.

Descript.—Height 20—30 ft. Cultivated in 1820. Flowers red; May and June. Fruit brown; ripe in Oct. The leaves are of a deeper green than those of any other sort, and they have a red spot at the base of the petioles of the leaflets.

Obs.—It seems doubtful whether this tree is a native of N. America or originated in British gardens. It passes under different names in different nurseries. It is distinguished from Pavia rubra by its larger and rougher leaves; and from Æ. Hippocastanum by the leaves being fuller and more uneven on the surface, and of a deeper green. The tree is also smaller, and of much less vigorous growth than the common horse-chestnut. It is considered one of the most ornamental trees known, and would form a fine avenue.

## PAVIA. The Pavia, or Smooth-fruited Horse-Chestnut.

(*Lin. Syst.* Heptandria Monogynia.)

Gen. Char.—*Calyx* tubular. *Petals* 4, erect, narrow. *Stamens* straight. *Capsules* unarmed. (*Don's Mill.*)

*Derivation.*—In honour of *Peter Paw*, a Dutch botanist, once professor of botany at Leyden.

All the species of this genus are very ornamental middle-sized trees or large shrubs; and are distinguished from the common horse-chestnuts by being smaller and smoother in all their parts.

### 34. Pavia rubra.

The red-*flowered* Pavia.

Spec. Char.—Corolla of 4 petals, that are longer than the stamens. Leaflets 5, elliptic-oblong, tapered to both ends, and smooth, as is the petiole; axils of the nerves hairy on the under surface of the leaf. (*Dec. Prod.*)

Hab.—A slender-growing tree. Virginia and Carolina, on mountains.

Local.—Lawn between the Obelisk and Pond.

Descript.—Height 10—20 ft. Introd. 1711. Flowers brownish scarlet; May and June. Fruit brown; ripe in Oct. Decaying leaves brown. Naked young wood reddish brown.

Obs.—A beautiful species, of which there are several varieties in cultivation of an ornamental kind. In one form it assumes a pendulous tree, and in another a trailing shrub.

### 35. Pavia flava.

### The yellow-*flowered* Pavia.

Spec. Char.—Petioles pubescent, flattish towards the tip. Leaflets 5—7, pubescent beneath, and above upon the nerves. (*Dec. Prod.*)

Hab.—A deciduous tree of the middle size. Virginia and Georgia, in fertile valleys.

Local.—Eastern side near the City entrance, and Lawn between the Obelisk and Pond.

Descript.—Height 30—40 feet. Introd. 1764. Flowers yellow; April and May. Fruit brown; ripe in Oct. Decaying leaves yellow, tinged with brown. Naked young wood yellowish brown.

Obs.—A more vigorous and rigid growing tree than P. rubra, with the branches upright; whereas in P. rubra they are spreading, slender, and pendulous. Leaves paler than in P. rubra. It seems to partake both of the character of Æsculus and Pavia.

### 36. Pavia macrostachya.

The long racemed Pavia.

Spec. Char.—Stamens much longer than the corolla. Racemes very long. Root stoloniferous. Flowers white. (*Dec. Prod.*)

Hab.—A deciduous shrub. S. Carolina and Georgia.

Local.—

Descript.—Height 10—15 feet. Introd. 1820. Flowers white, with long projecting stamens, which give the spike a fine fringed appearance; July and Aug. Fruit brown; ripe in Oct.

Obs.—It flowers about a month or six weeks later than the other Æseulaeeæ, and eontinues flowering for some weeks, forming one of the greatest floral ornaments of the shrubbery, at a season when very few trees or shrubs are in flower. The spreading leaves, supported on long slender petioles, and their graeeful disposition, eombined with the feathery lightness of the raeemes of flowers, whieh are agreeably fragrant, give the whole plant an air of eleganee quite different from that of any other speeies of dwarf pavia. The fruit, whieh is small, is said to be eaten in America, either boiled or roasted.

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## Order XI. SAPINDACEÆ.

The Soap-Tree tribe.

Char.—*Flowers* polygamous. *Males* with the calyx more or less deeply 4—5 parted. *Petals* 4—5, or occasionally absent, alternate with the sepals. *Disk* fleshy. *Stamens* 8—10, inserted into the disk. *Hermaphrodite flowers* with the calyx, petals, disk, and stamens as in the males. *Ovary* 3-celled. *Cotyledons* incumbent. *Plumule* 2-leaved. (*Lindl.*)

The properties of this order are various. Many of the plants have saponaceous qualities, hence the name of the order. Some are astringent; others yield edible fruits and seeds, and not a few are poisonous.

## KOLREUTERIA. The Kolreuteria.

(*Lin. Syst.* Octandria Monogynia.)

Gen. Char.—*Calyx* of 5 sepals. *Petals* 4, each with 2 scales at the base. *Capsule* 3-celled, inflated. *Seeds* ovate-globose, the seed-coat penetrating into the seed, and occupying in the place of an axis the centre of the embryo, which is spirally convoluted. (*Dec. Prod.*)

*Derivation.*—Named after *Kolreuter*, an eminent botanist.

### 37. Kolreuteria paniculata.

The panicled *flowering* Kolreuteria.

Spec. Char.—Leaves impari-pinnate, with ovate leaflets, coarsely toothed. Flowers polygamous. (*G. Don.*)

Hab.—A deciduous tree of the middle size. North of China.

Local.—On the Centre Lawn facing the City entrance and Eastern end of the Lower Lawn.

Descript.—Height 20—40 ft. Introd. 1763. Flowers yellow, interminal, racemose, spreading panicles; July and Aug. Fruit a bladdery capsule, whitish brown; ripe in Oct. Decaying leaves deep yellow. Naked young wood brown.

Obs.—This is a very ornamental low Chinese tree, quite hardy. It has not only a very fine appearance when in flower, but also in autumn, when the tree is covered with its large bladdery capsules, and the leaves change to a deep yellow, which they do before they fall off. It ought to be in every collection, on account of the beauty of its leaves, flowers, and fruit.

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## Order XII. VITACEÆ.

### The Vine Tribe.

Char.—*Calyx* small. *Petals* 4 or 5. *Stamens* equal in number to the petals; filaments distinct, or slightly cohering at the base. *Anthers* versatile. *Ovarium* 2-celled. *Fruit* a pulpy berry. *Seeds* 4 or 5, fewer by abortion; *embryo* erect; *albumen* hard. (*G. Don.*)

Climbing tendriled shrubs, with tumid separable joints; natives of Asia and N. America, with small obscure flowers, but conspicuous fruit. Acid leaves, which are astringent; and a fruit like that of the common grape, is the usual character or property of the order.

### AMPELOPSIS. The Ampelopsis.

(*Lin. Syst.* Pentandria Monogynia.

Gen. Char.—*Calyx* almost entire. *Petals* 5, falling off separately. *Stigma* capitate. *Ovary* not immersed in a disk, including 2—4 ovules. (*Dec. Prod.*)

*Derivation.*—From *ampelos*, a vine, and *opsis*, resemblance, from its similarity to the vine in habit, leaves, and flowers.

American climbers, not bearing eatable fruit like the vine.

### 38. Ampelopsis hederacea.

The Ivy-like Ampelopsis, *or Five-leaved Ivy.*

Spec. Char.—Leaves digitate, of from 3 to 5 leaflets, that are stalked, oblong, toothed with mucronated teeth. Racemes dichotomously corymbose. (*Dec. Prod.*)

Hab.—A tendriled climber. Canada to Georgia.

Local.—Side of the statue Jupiter.

Descript.—Stem 30—50 ft. or more. Introd. 1629. Flowers yellowish green; June and July. Berry black or dark blue; ripe in Oct. Decaying leaves deep purple or red, or yellowish red.

Obs.—The Virginian-creeper as it is more frequently called, is one of the most valuable, vigorous-growing, and ornamental climbers in Europe, from its rapid growth, hardiness, and the intense red, purple, scarlet, or yellow, of the leaves in autumn. It is commonly employed for covering old walls, for which it is very suitable, and will thrive in almost any soil and situation in town or country.

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## Order XIII. XANTHOXYLACEÆ.

The Prickly-Ash Tribe.

Char. *Flowers* unisexual, regular. *Calyx* in 3—5 divisions. *Petals* the same number, longer than the calyx; æstivation generally twisted. *Stamens* equal in number to the petals; in the female flowers wanting or imperfect. *Ovary* with as many carpels as there are petals. *Fruit* either berried or membranous. (*Lindl.*)

Trees or shrubs, natives of America or Asia; with pungent and aromatic qualities.

## AILANTUS. The Ailanto.

(*Lin. Syst.* Polygamia Monœcia.)

Gen. Char.—*Male Flowers.* *Calyx* 5 cleft. *Petals* 5, longer than the calyx. *Stamens* 10, the 5 opposite the petals, shortest. *Disk* central. *Hermaphrodite*, or *female, flowers.* *Calyx, petals*, and *disk* as in the male, but with fewer stamens. *Ovaries* 3—5, distinct. *Samaræ* 3—5, oblong; 1-celled, 1-seeded. *(Don's Mill.)*

*Derivation.*—Ailanto is the name of *Ailantus* glaudulosa *Desf.* in the Moluceas. It was long considered as a species of Rhus, whence the French name; and the meaning of the aboriginal word being, it is said, tree of heaven, hence the German name, Gotterbaum, tree of the gods.

### 39. Ailantus glandulosa.

The glandulous-*leaved* Ailanto.

Spec. Char.—Leaves impari-pinnate; the leaflets coarsely toothed at the base; the teeth glandulous on the under side. (*Dec. Prod.*)

Hab.—A large tree. North of China.

Local.—Western side of the Lower lawn and lawn between the Obelisk and pond. Also near the statue Jupiter.

Descript.—Height 50—60 feet. Introd. 1751. Flowers whitish green, exhaling a disagreeable odour; Aug. Capsules like the keys of the ash, but smaller; ripe in Oct. Decaying leaves brownish, but dropping with the first frost, without any great change of colour. The leaflets often separating from the petiole of the leaf, and leaving it for some weeks attached to the tree. Naked young wood rusty brown, without buds.

Obs.—This is a very ornamental tree when in full foliage; its long pinnated leaves at a distance have an Oriental and peculiar appearance. It is of rapid growth, and the leaves are sometimes 4 or 5 ft. in length. If possible, a mound or hill should always be found for a site. The wood is of a fine grain; it has a satiny aspect, and is hard, and well fitted for the purposes of cabinet-making. The tree has a noble appearance when clothed with leaves; and its gigantic boughs and shoots, and its straight, erect, thick trunk, seem to justify its original appellation of tree of heaven. It is remarkable for a small gland on the under side of the base of the leaf, which characterizes it; the obvious use of which seems not to have been discovered.

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## Sub-Class II. CALYCIFLORÆ.

*Petals separate, inserted with the Stamens on the Calyx.*

### 1. Polypetalæ or Dialypetalæ.

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### Order XIV. STAPHYLEACÆ.

The Bladder-Nut Tribe.

Char.—*Sepals* 5, connected at the base, coloured, with an imbricated æstivation. *Petals* 5, alternate. *Stamens* 5. *Disk* large. *Ovary* 2—3-celled. *Fruit* membranous or fleshy. (*Lindl.*)

Shrubs allied to spindle trees, with compound, opposite, stipulate and deciduous leaves; terminal flowers; and fruit a bladdery capsule. Natives of Europe and N. America. Their bark is often bitter, while their seeds are oily and acrid.

## STAPHYLEA. The Bladder-nut Tree.

(*Lin. Syst.* Pentandria Di-Trigynia.)

Gen. Char.—*Calyx* of 5 coloured sepals, connected at the base, in æstivation imbricate. *Petals* 5, in æstivation imbricate. *Stamens* 5, perigynous, alternate with the petals, and opposite the sepals. A large urceolate disk, or nectary, within the corolla. *Ovarium* 2 or 3-celled, superior. *Fruit* membraneous. *Seeds* with a bony testa, and a large truncate hilum. (*Lindl.*)

*Derivation.*—Abridged from Staphylodendron, its name before the days of Linnæus, derived from *staphule*, a bunch or cluster, and *dendron*, a tree; the flowers and fruits being disposed in clusters, and the plant being ligneous.

### 40. Staphylea pinnata.

The pinnated-*leaved* Staphylea.

Spec. Char.—Leaves pinnate, of 5—7 oblong, perfectly glabrous, serrate leaflets; the flowers in racemes; the capsules membranous and bladdery. (*Dec. Prod.*)

Hab.—A shrub or low tree. England in hedges and thickets.

Local.—

(A fine specimen may be seen opposite Raby Place by the railing; and at the back of Brass Knocker Inn, Claverton, it is trained as a small tree, which is singularly ornamental.)

Descript.—Height 6—12 ft. Flowers whitish: May and June. Nuts globose, white, in a bladdery capsule; ripe in Oct. Decaying leaves yellowish green. Naked young wood greenish, with green buds.

Obs.—A very singular-looking shrub, not only for its foliage, (which resembles some kind of ash or elder) and long clusters of drooping flowers, but from the membranous inflated fruit or bladdery capsule,

containing a nut as hard as bone; which nuts, in some parts of Europe are strung for beads by the Roman Catholics. The kernels taste like those of the pistacia, and are eaten in Germany by children. The flowers contain a great deal of honey, and are very attractive to bees. It is worthy of a place in every collection, and when properly trained forms a beautiful small tree.

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## Order XV. CELASTRACEÆ.

### The Spindle-Tree Tribe.

Char.—*Sepals* 4—6; æstivation imbricate. *Petals* 4—6. *Stamens* 4—6, alternate with the petals, opposite the sepals, indistinctly perigynous. *Ovary* superior, free, girded with a fleshy disk, with 2—4 cells. *Ovules* erect, rarely pendulous. *Fruit* capsular, baccate, drupaceous, or samarideous. *Seeds*, in most, attended with an aril. (*Lindl.*)

Deciduous or evergreen shrubs, natives of Europe and N. America, with small bright-coloured fruit and hard white wood. The flowers are small, white or purplish, and appear chiefly in May and June. The properties of the Order are more or less acrid.

## EUONYMUS. The Spindle Tree.

(*Lin. Syst.* Tetra-Hex-andria Monogynia.)

Gen. Char.—*Calyx* 4—5 lobed, flat, covered by the peltate disk at the base. *Petals* 4—6, spreading, inserted in the disk. *Stamens* 4—6, inserted above the disk in rather prominent glands. *Capsule* 3—5-celled,

3—5-angled. *Seeds* 1—4 in each cell, and wrapped in pulp or aril.

*Derivation.*—The word Euonymus is formed from the Greek, and signifies of good repute.

### 41. Euonymus europæus.

The European Euonymus, *or Spindle Tree.*

Spec. Char.—Branches smooth. Leaves lanceolate-ovate, very finely sawed. Flowers about 3 upon one peduncle; the petals oblong, rather acute. Lobes of the capsule obtuse. (*Dec. Prod.*)

Hab.—A deciduous shrub, or low tree. Britain, in hedges and copse woods.

Local.—Upper Lawn.

Descript.—Height 6 — 12 ft. Flowers greenish white; May. Fruit scarlet, produced in great abundance, and very showy; ripe in Sept. Decaying leaves reddish. Naked young wood green or reddish green.

Obs.—Though this shrub or tree is almost entirely neglected in pleasure grounds, it forms a singularly handsome object in autumn, when covered with its ripe scarlet fruit. The wood is white and hard, and was formerly much used for spindles, and for making skewers for butchers and cooks, and also in the manufacture of musical instruments; and it is still occasionally used for keys to pianofortes and by turners and coopers.

### 42. Euonymus latifolius.

The broad-leaved Euonymus, *or Spindle Tree.*

Spec. Char.—Branches smooth. Leaves broad-ovate, toothleted. Peduncles trichotomous, many-flowered.

Petals oval, obtuse. Lobes of capsule acutely angled, wing-formed. (*Don's Mill.*)

Hab.—A deciduous shrub or low tree. S. France.

Local.—Border of the Lower Lawn and Hort. Gard.

Descript. — Height 10 — 20 ft. Introd. 1730. Flowers white, becoming purplish; June and July. Fruit deep red, and very showy; ripe in Sept. Decaying leaves purplish red. Naked young wood reddish green, with long pointed green buds, tinged with red.

Obs.—The handsomest species of the genus, from its broad shining leaves, and its large red pendulous fruits, with orange coloured seeds, which, when the capsules open, are suspended from the cells somewhat in the manner that the seeds of the magnolias hang from their strobiles. It is a very compact, erect, slow growing tree, and in every respect most ornamental. It merits a place in every collection.

### 43. Euonymus americanus.

The American Euonymus, or *Spindle Tree.*

Spec. Char.—Branches smooth. Leaves almost sessile, elliptic-lanceolate, sawed. Flowers 1—3 on a peduncle. Petals sub-orbiculate. Capsule echinately warty. (*Dec. Prod.*)

Hab.—A sub-evergreen recumbent shrub. N. America, among rocks, and in moist woodlands.

Local.—Western end of the Lower Lawn.

Descript.—Height 2—6 ft. Introd. 1686. Flowers greenish yellow, tinged with purple; May and June. Capsule deep crimson. Seeds white, with a scarlet aril; ripe in Oct. Decaying leaves and naked shoots green.

Obs.—The scarlet fruits are said to resemble, at a distance, those of Arbutus Unedo, or Strawberry tree. They form a great ornament to this almost evergreen shrub, and have given rise in America to its common name, "the burning bush."

### 44. Euonymus japonicus.

The Japan Euonymus, or *Spindle Tree.*

Spec. Char.—Flowers four cleft. Leaves rounded, ovate, and toothed. (*Lindl.*)

Hab.—A sub-evergreen shrub. Japan.

Local.—Within the railing at the City entrance.

Descript.—Height 2—6 ft. Introd. 1804. Flowers green; July and Aug.

Obs.—A very ornamental evergreen, but rather tender. Both hares and rabbits are said to be very fond of the leaves of this species.

Var. 1. *E. j. foliis variegatis.*—Leaves variegated with white or yellow. *Local.*—Lawn facing the City entrance.

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## Order XVI. AQUIFOLIACEÆ.

### The Holly Tribe.

Char.—*Calyx* and *Corolla* with an imbricate æstivation. *Sepals* 4—6. *Corolla* hypogynous, with 4—6 lobes, and as many stamens. *Ovary* 2—6 celled. *Fruit* fleshy, indehiscent, with 2—6 stones, each containing a pendulous seed, which has large fleshy albumen. (*Lindl.*)

Low trees or shrubs, chiefly evergreen, natives of Europe and N. America. The flowers are white, of no great show, and appear in May and June; but they are succeeded by berries, red, scarlet, yellow, or black, of very great beauty. Their properties are bitter, tonic, astringent, and emetic.

### ILEX. The Holly.

(*Lin. Syst.* Tetrandria Tetragynia.)

Gen. Char.—*Calyx* 4—5-toothed, permanent. *Corolla* 4—5-cleft, subrotate. *Stamens* 4—5, alternating

with the segments of the corolla. *Ovary* sessile. *Stigmas* 4. *Berry* containing 4—5 1-seeded nuts. (*Don's Mill.*)

*Derivation.*—Ilex was named on account of the resemblance of its leaves to those of the *Quercus Ilex*, the true Ilex of Virgil. Linnæus adopted the name of Ilex for the genus, and preserved the name of Aquifolium for the most anciently known species. The name of Holly is, probably, a corruption of the word holy, as Turner in his *Herbal* calls it Holy, and Holy Tree; probably from its being used to commemorate the holy time of Christmas, not only in houses, but in churches.

### 45. Ilex aquifolium.

The prickly-leaved, *or common, Holly.*

Spec. Char.—Leaves oblong, shining, wavy, spiny-toothed. Peduncles axillary. Flowers nearly umbellate. *(G. Don.)*

Hab.—A handsome evergreen tree. Britain.

Local.—Frequent.

Descript.—Height 20—40 feet. Flowers white; May. Fruit red; ripe in Sept., and remaining on the tree all the winter. The *lower* leaves are very spinous; while the *upper* ones, especially on old trees, are entire. Decaying leaves yellow, dropping in June or July.

Obs.—It is unquestionably the finest evergreen European shrub. Being at once ornamental in the garden and shrubbery, useful in the field as a hedge, which makes the most impenetrable and the most durable of all vegetable fences; having this great advantage over deciduous-leaved trees and shrubs, that it is seldom liable to be attacked by insects; and, if shorn, the outer surface becomes impenetrable even to birds, who cannot build their nests in it. It is also useful in woods as a low timber tree, and its wood is in great repute by turners, joiners, and cabinet makers. From the inner bark macerated in water, and boiled during a long period, birdlime is procured. By culture alone, a hundred varieties and sub-varieties have been pro-

duced, differing in the variegation, margin, and size of the leaves, and in the color of the fruit. These make gay and elegant shrubs for lawns and small groups, and form an important furniture in the general shrubbery. The following Varieties may be seen in the Park, and many of them together upon a small lawn, the western side of the Obelisk, at the commencement of the footpath leading through the field to Weston.

Var. 1. I. A. *heterophyllum.* The variable-leaved Holly. Holly bed and border of the Lower Lawn, western end.
2. „ *altaclerense.* The High Clere Holly. Holly bed.
3. „ *marginatum.* The Scotch Holly. Holly bed and opposite the Pond.
4. „ *recurvum.* The recurved-leaved Holly. Upper boundary.
5. „ *pendulum.* The pendulous-branched Holly. Lawn back of Brock Street.
6. „ *serratifolium.* The serrated-leaved Holly. Holly bed.
7. „ *ferox.* The Hedgehog Holly. Holly bed.
8. „ *ferox aureum.* The golden Hedgehog Holly. Holly bed.
9. „ *albo-marginatum.* The silver-edged Holly. Upper Lawn.
10. „ *aureo-marginatum.* The gold-edged Holly. Frequent.
11. „ *aureo-pictum.* The yellow-painted Holly. Holly bed.
12. „ *fructu luteo.* The yellow-fruited Holly. Near the Brock Street entrance.

The remarkable difference observable between the leaves in the lower part of the tree having their edges strongly armed with stout spines, and those on the upper part having their margins quite smooth, is very singular; it would appear to be a means of protection against the injury of cattle, and is the reason of the Holly being considered, in the emblematic language, the token of foresight. This peculiar circumstance in the leaves has not escaped the notice of the poets, and is thus spoken of by Dr. Southey:

O reader! hast thou ever stood to see
The Holly tree?

The eye that contemplates it well, perceives
Its glossy leaves
Order'd by an Intelligence so wise,
As might confound an atheist's sophistries.
Below a circling fence, its leaves are seen
Wrinkled and keen;
No grazing cattle through their prickly round
Can reach to wound;
But, as they grow where nothing is to fear,
Smooth and unarmed the pointless leaves appear.

### 46. Ilex (A.) balearica.
### The Minorca Holly.

Spec. Char.—Leaves ovate, acute, flat, shining, entire or spiny-toothed. Umbels axillary, few-flowered, short. (*Don's Mill.*)

Hab.—An evergreen low tree. Minorca and Madeira.

Local.—Holly bed.

Descript.—Height 10—20 ft. Introd. 1744. Flowers white; May and June. Drupe scarlet; ripe in Dec. Decaying leaves yellow, dropping in June and July.

Obs.—A very distinct kind, with thick, pale, or yellowish green leaves, and but few prickles.

### 47. Ilex Perado.
### The Perado Holly.

Spec. Char.—Leaves ovate, with an entire acumen, or having very few teeth, shining. Umbels short, axillary, few-flowered. *(Don's Mill.)*

Hab.—An evergreen shrub. Madeira.

Local.—Border of the Lower Lawn, western end.

Descript.—Height 5—10 ft. Introd. 1760. Flowers white or reddish; May and June. Drupe large, red; ripe in Oct.

Obs.—This species has proved itself to be quite hardy, and from the singularity and thickness of its leaves, is a desirable addition to our evergreens, deserving a place in every collection. It is considered by some to be but a variety of the Common Holly.

### 48. Ilex latifolia.

### The broad-leaved Holly.

Spec. Char.—Leaves ovate, bluntish, serrated, shining above. Pedicels aggregate, longer than the petioles, rising above the axils of the leaves. *(G. Don.)*

Hab.—An evergreen tree or shrub. Japan.

Local.—Between the Upper Dell and statue Jupiter.

Descript.—Height 10—20 ft. Introd. 1840.

Obs.—This splendid species is sometimes named Ilex macrophylla, and is one of the most magnificent evergreens we possess; its leaves, which are laurel shaped, being often 9 inches long and 3 inches broad. It is quite hardy, but requires shelter from wind, as its large leaves are often broken.

### 49. Ilex Dipyrena.

### The two-seeded-berried Holly.

Spec. Char.—Leaves elliptic, oblong, mucronate, remotely spiny-serrated. Flowers sessile, in axillary fascicles. Fruit 2-seeded. *(G. Don.)*

Hab.—An evergreen tree or shrub. Nepal and Chinese Tartary.

Local.—Border of the Lower Lawn.

Descript.—Height 5—12 ft. Introd. 1840.

Obs.—A very beautiful and most desirable species; known also by the name of Ilex Cunninghamii and I. Dentoni.

## Order. XVII. RHAMNACEÆ.

### The Buckthorn Tribe.

Char.—*Calyx* 4—5 cleft; æstivation valvate. *Corolla* of 4—5 petals; in some absent. *Petals* cucullate, or convolute. *Stamens* 4—5, perigynous. *Ovary* superior, or half-superior, 2, 3, or 4-celled, surrounded by a fleshy disk. *Ovules* one in a cell, erect, as are the seeds. *Fruit* fleshy and indehiscent, or dry and separating into 3 divisions. *(Lindl.)*

Trees or shrubs, often spiny, and generally deciduous; natives of Europe, Asia, and America. The flowers are small, greenish or whitish, appearing in June and July; and they are succeeded by berries, black, red, yellow, or white. Their properties are usually acrid and purgative. Some are bitter, tonic, and astringent; others yield dyes, and the fruit of some is edible.

### PALIURUS. The Christ's Thorn.

*(Lin. Syst.* Pentandria Trigynia.)

Gen. Char.—*Calyx* spreading, 5 cleft. *Petals* 5, obovate, convolute. *Stamens* 5, protruding. *Anthers* ovate, 2-celled. *Disk* flat, pentagonal. *Ovary* 3-celled. *Styles* 3. *Fruit* dry, indehiscent, containing a 3-celled nut. *(Don's Mill.)*

*Derivation.*—From *pallo*, to move, and *ouron*, urine; in allusion to its diuretic qualities; or from Paliurus, the name of a town in Africa, now called Nabil.

#### 50. Paliurus Aculeatus.

The prickly *Christ's Thorn.*

Spec. Char.—Leaves ovate serrulated, smooth, with

2 spines at the base; one straight, the other recurved.

Hab.—A branching deciduous shrub, or low tree. Europe.

Local.—Western end of the Lower Lawn.

Descript. — Height 15 — 30 ft. Introd. 1596. Flowers greenish yellow; June and July. Fruit yellow; ripe in Sept.

Obs.—The fruit is buckle-shaped, flat and thin, but coriaceous. From the singular appearance of this fruit, which has the footstalk attached to the middle, which is raised like the crown of a hat; and the flattened disk, which resembles its brim; the French have given this tree the name of *porte-chapeau*. This shrub is by many persons supposed to be that from which the crown of thorns which was put upon the head of Jesus Christ was composed; the truth of which is supported by many travellers of credit, who affirm that this is one of the most common shrubs in the country of Judea; and from the pliableness of its branches, which may easily be wrought into any figure, it may afford a probability. Hasselquist, however, is of opinion that it was a species of Rhamnus, called therefore by Linnæus, Rhamnus Spina Christi. (*Loudon.*)

## RHAMNUS. The Buckthorn.

(*Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* urceolate, 4—5-cleft. *Stamens* bearing ovate 2-celled anthers. *Disk* thin, covering the tube of the calyx. *Ovary* free, 3—4 celled. *Styles* 3—4, connected or free. *Fruit* baccate, containing 3—4 indehiscent nuts. (*Don's Mill.*)

*Derivation.*—From the Celtic *ram*, signifying branching; which the Greeks have changed to *rhamnos*, and the Latins to *ramus*.

The shrubs of this genus are remarkable for their upright stiff mode of growth, and for being covered with numerous strong thorns in their wild state, whence the name of ram, or buckthorn.

## 51. Rhamnus Alaternus.

### The Alaternus.

Spec. Char.—Leaves ovate-elliptical, or lanceolate, coriaceous, quite smooth, serrated. Flowers dicœcious, disposed in short racemes. *(Don's Mill.)*

Hab.—An evergreen shrub. S. Europe and N. Africa.

Local.—Frequent. Southern boundary and near the Farm House.

Descript.—Height 10—20 ft. Introd.—1629. Flowers green, without any corolla; April to June. Berry black; ripe in Oct.

Obs.—This is one of the most common and one of the hardiest of garden evergreens, of which there are several varieties. Few shrubs are more generally cultivated, or of older standing in British gardens. It is an ornamental evergreen, with mellifluous blossoms, much frequented by bees. It is sometimes confounded with the *Phillyrea;* but they may be easily distinguished by the position of their leaves, which are alternate in these, but placed opposite by pairs in that. It is a rapid growing shrub, and useful for thickening screens, clothing walls, &c.

Var. 1, R. A. *angustifolia.* Leaves long and narrow. South side bank near the City Entrance, and road side near the Upper Dell.

Var. 2. R. A. *foliis maculatis.* Leaves blotched with yellow. Upper Lawn.

## 52. Rhamnus hybridus.

### The hybrid Alaternus.

Spec. Char.—Leaves oblong, acuminated, serrated, smooth, shining, hardly permanent, rather coriaceous. Flowers androgynous. *(Don's Mill.)*

Hab.—A sub-evergreen shrub.

Local.—Border of the Lower Lawn, western end.

DESCRIPT.—Height 10—12 ft. The flowers are green, and appear in May or June.

OBS.—A garden hybrid, raised from R. alpinus, fecundated by R. Alaternus, and forming a distinct, robust-growing and hardy shrub. A very desirable plant.

### 53. RHAMNUS CATHARTICUS.
### The purging Buckthorn.

SPEC. CHAR.—Erect. Leaves ovate, toothed. Flowers in fascicles, polygamo-diœcious. Berries 4-seeded, rather globose. *(Don's Mill.)*

HAB.—A deciduous shrub or low tree. Britain, in woods.

LOCAL.—Upper Lawn.

DESCRIPT.—Height 10—15 ft. Flowers yellowish green, with very narrow petals; May. Berry black; ripe in Sept. Decaying leaves yellowish green. Naked young wood whitish.

OBS.—This plant was formerly used in medicine, and is still employed in colour making, and sometimes in dying. The juice of the unripe berries is of the colour of saffron, and it is used for staining maps or paper. The juice of the ripe berries mixed with alum forms the sap green of painters; but if the berries be gathered late in the autumn, the juice is purple. The bark affords a beautiful yellow dye.

### 54. RHAMNUS ALPINUS.
### The Alpine Buckthorn.

SPEC. CHAR.—Erect, twisted. Leaves oval lanceolate, crenate-serrated, smooth, lineated with many parallel nerves. Flowers diœcious, female ones with 4-cleft stigmas. *(Don's Mill.)*

HAB.—A deciduous shrub. Alps of Switzerland.

LOCAL.—Right hand side of the centre walk, facing the entrance in the Hort. Gard.

DESCRIPT.—Height 5—10 ft. Introd. 1752. Flowers greenish ; May and June. Berries black ; ripe in Sept.

OBS.—A very distinct species, and remarkable for its twisted leaves.

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## ORDER XVIII. ANACARDIACEÆ.

### THE CASHEW TRIBE.

CHAR.—*Flowers* generally unisexual. *Calyx* usually 5-parted. *Petals* equal in number to the divisions of the calyx. *Stamens* same, or twice that number. *Disk*, when present, annual. *Ovarium* usually solitary. *Styles* 1—3, sometimes wanting. *Fruit* indehiscent. (*Lindl.*)

Low deciduous or evergreen trees ; natives of North America, Asia, and Africa. Their properties are acrid and poisonous.

### RHUS. THE RHUS, *or* SUMACH.

(*Lin. Syst.* Pentandria Trigynia.)

GEN. CHAR.—*Sexes* hermaphrodite, dicœcious, or polygamous. *Calyx* small, 5-parted, persistent. *Petals* ovate, and inserted into a calycine disk, or into the calyx. *Stamens* 5, inserted into a calycine disk. *Ovary* single. *Styles* 3, short or wanting. *Stigmas* 3. *Fruit* an almost dry drupe of 1 cell, with a bony nut, of 1 or more seeds. (*Dec. Prod.*)

*Derivation.*—From *rhoos*, or *rhous*, Greek, or from *rhudd*, or *rud*, Celtic, red ; in allusion to the colour of the fruit and leaves of some of the species in autumn. Others derive Rhus from the Greek verb *rheo*, I run, from the roots running

and spreading underground to a considerable distance from the tree. Sumach is derived from *Simaq*, the Arabic name of the plant.

Shrubs, chiefly natives of N. America; remarkable for the beauty of their foliage in autumn, which, in some species, dies off of a dark red or purple; in others of a bright scarlet; and in some, of a rich yellow. All the species are poisonous, and neither the leaves nor the shoots should be handled by children.

### 55. Rhus Cotinus.

The Cotinus Rhus *or Venetian Sumach.*

Spec. Char.—Leaves obovate. (*Dec. Prod.*)

Hab.—A deciduous rambling shrub. Spain to Caucasus.

Local.—Lawn, South side of the Obelisk.

Descript.—Height 4—8 ft. Introd. 1656. Flowers pale purplish, or flesh colour; June and July. Fruit white; ripe in Sept. Decaying leaves of a fine reddish yellow. Naked young wood smooth brown.

Obs.—It is an old but very beautiful shrub, and when it has attained a large size, and is covered with its ripe seeds, it has a very singular appearance, from the large loose panicles of elongated hairy pedicels, which are attached to the seeds, and on this account the French and Germans call it the Periwig Tree. Near Valcimara in the Apennines it is cultivated for tanning leather, where it is called Scotino.

### 56. Rhus typhina.

The Fever Rhus, *or Stag's Horn Sumach.*

Spec. Char.—Leaf of 8—10 pairs of leaflets, and the odd one, that are lanceolate, acuminate, serrated, hairy beneath. Petiole and branches hairy. (*Dec. Prod.*)

Hab.—A low deciduous tree. Canada to Carolina, in rocky dry situations.

Local.—Gravel walk, and near the R. V. Park gate.

DESCRIPT.—Height 20 ft. Introd. 1629. Flowers, female, dark purple, male, greenish yellow and purple; July and Aug. Fruit hairy, purple; ripe in Oct. Decaying leaves dark purple or red, sometimes mixed with yellow. Naked young wood dark brown, hairy.

OBS.—In British gardens, it is either a large shrub, or a low tree with a woody stem and a head composed of many irregular branches, generally crooked and deformed. The young shoots are covered with a soft velvet like down, resembling that of a young stag's horn, both in colour and texture; whence and probably also from the crookedness of the branches, the common name. The leaves are 2 to 3 feet long, and they are very conspicuous in autumn, before they drop off, when they change to a purplish or yellowish red. As the plant is of open irregular growth, and not of long duration, it should never be placed where it is intended to act as a screen. Like all objects the chief beauty of which consists in their singularity, it produces the most striking effect when standing alone on a lawn.

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## ORDER XIX. LEGUMINACEÆ, OR FABACEÆ.

### THE LEGUMINOUS OR BEAN TRIBE.

CHAR.—*Calyx* with 5 divisions, either partitions, teeth, or clefts, the odd one anterior to the axis of inflorescence. *Fruit* a legume. *Seed* with the radicle next the hilum. (*Lindl.*)

The name of Leguminaceæ is applied to this extensive and truly natural order, on account of the seeds of all the species being produced in leguminous pods, bearing more or less resemblance to those of the common pea or bean; and quite different from the siliquose pods of cruciferous plants. Their flowers are mostly yellow, or white, and the leaves of almost all of them are large and

compound. The properties of the order are very various. Some are nutritious, others tonic and astringent, others purgative, and some poisonous.

## SOPHORA. The Sophora.

*(Lin. Syst.* Decandria Monogynia.)

Gen. Char.—*Calyx* 5-toothed, campanulate at the base, or somewhat attenuated. *Petals* of the keel usually concrete at the apex. *Legume* somewhat moniliform, wingless, many-seeded. *(Don's Mill.)*

*Derivation.*—Altered from *sophero*, the Arabic name of a papilionaceus flowering tree.

### 57. Sophora japonica.

### The Japan Sophora.

Spec. Char.—Leaves pinnate, with 11—13 leaflets, which are oblong-ovate, acute, and smooth; panicle loose, terminal; pods smooth. *(G. Don.)*

Hab.—A deciduous tree of the middle size. Japan.

Local.—Eastern end of the Lower Lawn, near the Poplars.

Descript. — Height 40 — 50 ft. Introd. 1763. Flowers cream coloured; Aug. and Sept. Pods rarely produced in England. Decaying leaves yellow and green. Naked young wood dark green, like that of Jasminum officinale.

Obs.—A round-headed tree, readily distinguished in winter by the fine, smooth, dark green bark of its young wood and smaller branches; and in summer, by the dark blue green of its foliage. None of the arboreous Leguminaceæ are equal to this tree in beauty of foliage and bark. One remarkable property in the foliage of the Sophora is, that

the very hottest and driest seasons do not turn it pale, or cause it to drop off, as heat does that of most of the other pinnated-leaved Leguminaceæ.

Var. 1 S. j. *pendula*. Local.—

One of the most ornamental of pendulous trees, and well deserving of culture as an object of singularity and beauty.

## ULEX. The Furze.

*(Lin. Syst.* Monadelphia Decandria.)

Gen. Char.—*Calyx* bibracteate, bipartite, one of the lips 3-toothed, the other bidentate. *Stamens* all connected. *Legume* oval-oblong, turgid, many-ovulate, but few-seeded, hardly longer than the calyx. *(G. Don.)*

*Derivation.*—Said to be derived from *ac*, Celtic, a point; in reference to the prickly branches.

### 58. Ulex europæa.

The common Furze, *Whin or Gorse.*

Spec. Char.—Leaves lanceolate, linear. Branchlets villous. Bracteas ovate, loose. Calyx pubescent. *(G. Don.)*

Hab.—An erect compact bush, evergreen, from the colour of the bark. Middle and South of Europe, on gravelly soils; and in Britain on hills.

Local.—Side of the Pond, and road-side upper boundary.

Descript.—Height 2—5 ft.; Flowers rich yellow; Feb. to May, and in mild winters Sept. to May. Pod brown; ripe in Aug.

Obs.—A beautiful evergreen shrub, useful for hedges and fuel; and both a shelter for game, and food for cattle. The ashes abound in alkali. In some places it grows in abundance, and there it is despised

by the common people; but the greatest botanists have admired its deep green shoots and leaves, brilliant yellow flowers, and tufted picturesque shape.

Var. 1. U. e. *flore pleno.* The double-flowered European Furze.

Local.—Grass mound western side of the Obelisk, and between the Dells.

Var. 2. U. e. *stricta.* The upright-growing, or Irish Furze. Local.—Middle of the Upper Lawn, and western end of the Lower Lawn.

## SPARTIUM. The Spanish Broom.

(*Lin. Syst.* Monadelphia Decandria.)

Gen. Char.—*Calyx* membranous, spathaceous, cleft above, 5 toothed at the apex, somewhat labiate. *Corolla* with a roundish complicated vexillum, and an acuminated keel. *Petals* a little agglutinated. *Stamens* monadelphous. *Legume* compressed, many-seeded. (*Don's Mill.*)

*Derivation.*—From *sparton*, cordage. The earliest ropes were made of this and similar tough plants.

### 59. Spartium junceum.

The Rush-*like* Spartium, *or Spanish Broom.*

Spec. Char.—Branches upright, round, of a deep green colour, smooth, and with but few leaves, which are lanceolate, and soon drop off. (*G. Don.*)

Hab.—An upright shrub, evergreen from the colour of its numerous shoots. Spain, Portugal, and the South of France, in gravelly soils.

Local.—Gravel Walk and border of the Lower Lawn.

Descript.—Height 5—12 ft. Introd. 1548. Flowers dark yellow, large; July to Sept. Pods brown; ripe in Oct. Naked young wood smooth and dark green.

Obs.—At first sight this plant looks like the common Broom, which it resembles, and is frequently mistaken for it by casual observers. It is very ornamental, from the green colour of the shoots, and its large yellow flowers. In Italy, and the South of France, a very good cloth is manufactured from its fibres. Both in Spain and France, the shoots are used for forming baskets, and for tying up vines and other fruit trees. Bees are said to be very fond of the flowers; and the seeds are eaten with great avidity by poultry, partridges, &c. Medicinally, the flowers and leaves, in infusion, act as an emetic, or, in a larger quantity, as an aperient. In Britain, the plant is solely regarded as an ornamental shrub.

## CYTISUS. The Cytisus.

(*Lin. Syst.* Monadelphia Decandria.)

Gen. Char.—*Calyx* bilabiate. *Upper Lip* usually entire; lower one somewhat tridentate. *Vexillum* ovate, large. *Carina* very obtuse, including the stamens and pistils. *Stamens* monadelphous. *Legume* compressed, many-seeded, glandless. (*Don's Mill.*)

*Derivation.*—Pliny says it was so called because found in *Cythnus*, one of the Cyclades; but the Cytisus of the ancients is believed to have been our Medicago arborea.

Shrubs or low trees, very ornamental; and producing their yellow, and sometimes white and purple flowers, from June to Aug. All the species have trifoliolate leaves and the habit of Genista or of Spartium, to both which genera they are nearly allied.

### 60. Cytisus albus.

The White Cytisus, *or Portugal Broom.*

Spec. Char.—Branches terete, twiggy. Leaves simple, and trifoliolate, sessile. Leaflets linear-oblong, and silky. Flowers in fascicles, disposed in long racemes. Legume 2-seeded, very villous. (*Don's Mill.*)

Hab.—An upright shrub ; evergreen, from the colour of its numerous straight parallel young shoots. Portugal and the Levant.

Local.—Upper and Lower Lawn.

Descript.—Height 5—7 ft. Introd. 1752. Flowers white ; May and June. Legume brown ; ripe in Aug.

Obs.—A very handsome shrub, more especially when covered with its white flowers in May, and when surrounded by hundreds of bees, busily occupied in extracting the honey. Placed by itself on a lawn, it forms a singularly ornamental plant, even when not in flower, by the varied disposition and tufting of its twiggy thread-like branches. When in flower, it is one of the finest ornaments of the garden.

## 61. Cytisus Laburnum.

### The common Laburnum.

Spec. Char.—Branches terete, whitish. Leaves petiolate ; leaflets ovate-lanceolate. Racemes pendulous, simple. Legume hairy.

Hab.—A low deciduous tree. Europe.

Local.—Upper and Lower Lawn. Frequent.

Descript.—Height 20 ft. Introd. 1596. Flowers yellow ; May and June. Legume dark brown ; ripe in Oct. Decaying leaves yellow. Naked young wood green.

Obs.—As an ornamental tree, the Laburnum has few rivals. It is well known and of great beauty, but the seeds are poisonous. The shape of the head is irregular and picturesque; its foliage is of a smooth, shining, and beautiful green; and, what is a great recommendation to every ornamental plant, it is not liable to be preyed on by insects. The name of the Golden Chain alludes to the length of the drooping racemes of flowers, which, as Cowper elegantly describes them, are "rich in streaming gold."

### 62. Cytisus sessilifolius.

The sessile-leaved Cytisus.

Spec. Char. — The whole plant quite smooth. Branches round. Floral leaves almost sessile, and leaflets ovate. Racemes terminal, short, and erect; each calyx having a 3-leaved bractea under it. (*Dec. Prod.*)

Hab.—A shrub, with upright branches, and smooth shining leaves. Native of France and Piedmont.

Local.—Upper and Lower Lawn at the western end; and at the Brock Street entrance.

Descript.—Height 4—7 ft. Introd. 1569. Flowers yellow; May and June. Legume black; ripe in Oct.

Obs.—A very common plant in British gardens, generally as a bush, but sometimes grafted standard high on the laburnum; when it forms a very formal, symmetrical, round-headed, small tree, which, however, is highly beautiful when in flower. In this form it is common in the London Nurseries, as seen at the Brock Street entrance.

### 63. Cytisus scoparius.

The *common* Broom.

Spec. Char.—Branches angled, glabrous. Leaves ternate or solitary. Flowers axillary, pediceled, solitary. Legume fringed.

Hab.—A shrub, evergreen from the colour of its numerous young shoots. Indigenous, and a native of dry sandy or gravelly soils, throughout Europe.

Local.—

Descript.—Height 3—12 ft. Flowers large, yellow; May and June. Legume black; ripe in Sept. Naked young wood green.

Obs.—This plant was much in use in former times as a substitute for hay and straw, in feeding cattle and sheep during winter, and in thatching ricks and houses. The young shoots were used as a substitute for hops, in brewing beer; and the flower buds, before they became yellow, were pickled, as a substitute for capers. One of the principal modern uses of the broom, both in Britain and on the Continent, is to form brooms or besoms; for which purpose, as the specific name would imply, it appears to have been used from time immemorial. The tops and leaves are purgative and diuretic.

## ROBINIA. The Robinia, *or* Locust Tree.

(*Lin. Syst.* Diadelphia Decandria.)

Gen. Char.—*Calyx* 5-toothed, lanceolate, 2 upper ones shorter and approximate. *Corolla* papilionaceous. *Vexillum* large. *Keel* obtuse. *Stamens* diadelphous, deciduous. *Ovaries* 16—20, ovulate. *Style* bearded in front. *Legume* compressed, almost sessile, many-seeded. (*Don's Mill.*)

*Derivation.*—Named in honour of *Jean Robin*, a French botanist.

### 64. Robinia Pseud-Acacia.

The *common* Robinia, *or* False Acacia.

Spec. Char.—Prickles stipular. Branches twiggy. Racemes of flowers loose and pendulous; and smooth, as are the legumes. Leaflets ovate. (*Dec. Prod.*)

Hab.—A deciduous tree, above the middle size. North America.

Local.—Gravel Walk. Upper and Lower boundary.

Descript.—Height 70—80 ft. Introd. 1640. Flowers white; May and June. Legume compressed,

dark purplish brown; ripe in Sept. Decaying leaves yellow. Naked young wood purplish brown.

Obs.—A well known, very ornamental and graceful tree, from its light pinnate foliage, and white or pink flowers. It is of rapid growth, and the wood when old, is very durable, being close-grained, hard, and finely veined; and in America more valued by the cabinet-maker than any other native timber whatever. It is asserted to be nearly incorruptible, and therefore most useful for posts and gates, being known to remain fresh for nearly a century, on a property near Baltimore.

Var. 1. *R. P. umbraculifera.* The umbrella-headed Robinia. A very ornamental tree, with a dense, umbrageous, domical head, and few large branches, without prickles. Local.—By the roadside opposite the Brock Street entrance.

Var. 2. *R. P. tortuosa.* The tortuose-branched Robinia. In this variety the branches are much crowded and twisted in a zigzag manner. Local.—Horticultural Garden. It is very ornamental and curious, deserving a place in every collection of trees in pleasure grounds, for public resort.

### 65. Robinia viscosa.

### The clammy-*barked* Robinia.

Spec. Char.—Branches and legumes glandular and viscid. Racemes crowded, erect.

Hab.—A clammy-barked tree. S. Carolina near rivers.

Local.—Opposite the Lime trees in the first division of the Park; and on the lawn, western side of the Obelisk, near the gateway leading to the Upper Bristol road.

Descript. — Height 30 — 40 ft. Introd. 1797. Flowers scentless, pale pink, mixed with white, varying to pale purple or violet colour according to the soil; June to Aug. Legume brown; ripe in Oct. Naked young wood purplish and clammy.

Obs.—R. *viscosa* resembles in its leaves and flowers, the common Acacia; but is, altogether, a much handsomer tree. The bark of the young shoots which is of a dull red, is covered with a clammy substance, and when touched sticks to the fingers, which characterises and readily distinguishes it.

## CARAGANA. The Siberian Pea Tree.

*(Lin. Syst.* Diadelphia Decandria.)

Gen. Char.—*Calyx* short, tubulous, 5-toothed. *Corolla* obtuse, straight; the wings and vexillum about equal in length. *Stamens* diadelphous. *Style* glabrous. *Stigma* terminal, truncate. *Legume* sessile, many seeded. *Seeds* somewhat globose. *(Don's Mill.)*

*Derivation.—Caragan* is the name of C. arborescens among the Mongol Tartars.

### 66. Caragana frutescens.

The shrubby Caragana.

Spec. Char.—Leaves having 2 pairs of leaflets. Stipules membranous. Petiole furnished with a short spine at the apex. Pedicels solitary. Flowers yellow, resupinate.

Hab.—A low shrub. Siberia.

Local.—Dell, facing the back of Brock Street.

Descript.—Height 5—10 ft. Introd. 1752. Flowers yellow; May. Legume brown; ripe in Aug.

Obs.—A handsome shrub, sometimes grafted standard high on C. arborescens. It is said to be used by the Tartars for the same purposes as osiers, for which its tough shoots render it proper.

## COLUTEA. The Bladder-Senna.

(*Lin. Syst.* Diadelphia Decandria.)

Gen. Char.—*Calyx* 5 toothed. *Vexillum* flat, bicallose, larger than the keel, which is obtuse. *Stamens* diadelphous. *Stigma* lateral, hooked under the top of the style. *Style* bearded longitudinally behind. *Legume* stipitate, ovate, boat-formed, inflated, scarious. (*Don's Mill.*)

*Derivation.*—Named from *kolouo*, to amputate, as they are said to die if the branches are lopped off.

Shrubs with membranaceous inflated pods, free-growers and flowerers, well adapted to introduce in extensive shrubberies.

### 67. Colutea arborescens.

The arborescent Colutea, *or Bladder-Senna.*

Spec. Char.—Leaflets elliptical, retuse. Peduncles bearing about 6 yellow flowers. Callosities of the standard sort. Legumes closed. (*Dec. Prod.*)

Hab.—A rapid growing shrub. Italy.

Local.—Border of the Lower Lawn; near the centre-gate.

Descript. — Height 12 — 14 ft. Introd. 1570. Flowers yellow; June to Aug. Legume bladder-like, reddish; ripe in Sept.

Obs.—It grows on Mount Vesuvius, even in the ascent to the crater, where there are scarcely any other plants. The leaves are recommended as answering all the purposes of senna, and they are also said to afford a grateful food for cattle.

## CORONILLA. The Coronilla.

(*Lin. Syst.* Diadelphia Decandria.)

Gen. Char.—*Calyx* campanulate, short, 5-toothed.

*Claws* of petals longer than the calyx. *Carina* acute. *Stamens* diadelphous. *Legume* nearly terete and slender. *Seeds* ovate or cylindrical. (*Don's Mill.*)

*Derivation.*—From *corona*, a crown; in reference to its flowers being disposed in little tufts like coroncts. Handsome tree flowering shrubs, of easy culture.

### 68. Coronilla Emerus.
### The Scorpion-Senna Coronilla.

Spec. Char.—Shrubby, glabrous. Leaves minutely stipuled, with 5—7 obovate leaflets. Peduncles 3-flowered. Claws of corolla, 3 times as long as the calyx. Stem angular. (*Dec. Prod.*)

Hab.—A bushy glabrous shrub. France.

Local.—Eastern end of the Lower Lawn.

Descript.—Height 4—10 ft. Introd. 1596. Flowers yellow; April to June. Legume brown; ripe in Sept.

Obs.—A very old and popular, but very pretty shrub; giving its orange-coloured flowers the greater part of the summer. The pinnate foliage is very elegant, and it flourishes most in a sunny sheltered situation, and a dry soil. It bears clipping, and would form a beautiful garden hedge.

## GLEDITSCHIA. The Gleditschia.
### (*Lin. Syst.* Polygamia Diœcia.)

Gen. Char.—*Flowers* unisexual. *Calyx* of 3, 4, 5 equal sepals. *Petals* and *Stamens* equal in number to the sepals. *Style* short. *Stigma* pubescent. *Legume* continuous. *Seeds* compressed. (*Don's Mill.*)

*Derivation.*—Named in honour of *Gottlieb Gleditsch*, of Leipsic, once a professor at Berlin.

Prickly trees, remarkable for the beauty of their foliage, and the size and number of the thorns which are produced from their branches.

### 69. Gleditschia sinensis.

The Chinese Gleditschia.

Spec. Char.—Spines stout, conical, axillary; those on the branches simple or branched; those on the stem grouped and branched. The leaflets ovate-elliptical, obtuse. (*Dec. Prod.*)

Hab.—A middle-sized tree. China.

Local.—Eastern side of the Lower Lawn.

Descript.—Height 30—50 ft. Introd. 1774. Flowers greenish; June and July. Legume not seen in England.

Obs.—The spines, which are very strong and branchy, are more abundant on the trunk than on the branches, and are frequently found in bundles. The leaves are bipinnate, and the leaflets are elliptic obtuse, notched on the edges, smooth, shining, and much larger than those of any other species.

Var. 1. G. s. *nana*. Upper Lawn, and near the Brock Street entrance. A very ornamental plant.

## GYMNOCLADUS. The Gymnocladus.

(*Lin. Syst.* Dicœcia Decandria.)

Gen. Char.—*Flowers* dicœcious from abortion. *Calyx* tubular, 5-cleft. *Petals* 5, equal, oblong, exserted from the tube. *Stamens* 10, enclosed. *Legume* oblong, thick, filled with pulp inside. (*Don's Mill.*)

*Derivation.*—From *gumnos*, naked, and *klados*, a branch; from the naked appearance of the branches during winter, when they seem, unless perhaps at the points of the shoots, totally devoid of buds.

### 70. Gymnocladus canadensis.

The Kentucky Coffee Tree, or Stump Tree.

Spec. Char.—Branches blunt at the tip, bipinnate leaves, flowers in racemes.

Hab.—A singular tree. Canada.

Local.—Eastern end of the Lower Lawn.

Descript. — Height 30 — 60 ft. Introd. 1748. Flowers white; May to July. Decaying leaves yellow. Naked young wood of a mealy white, without any appearance of buds.

Obs.—A remarkable tree, having the buds concealed under the bark, with short, stiff, upright, stump-like shoots, and very large pinnate leaves, often 3 ft. long. The seeds were at one time roasted and ground as a substitute for coffee, in Kentucky. The pods, preserved like those of the tamarind (to which this genus is nearly allied), are said to be wholesome, and slightly aperient. In Britain, the only use of the tree is for ornamental purposes; and, considered as an object of curiosity and beauty, no collection ought to be without it.

## CERCIS. The Judas Tree.

(*Lin. Syst.* Decandria Monogynia.)

Gen. Char.—*Calyx* urceolate at the base and gibbous, bluntly 5-toothed at the apex. *Petals* 5, papilionaceous. *Stamens* 10, free, unequal. *Ovary* on a short stipe. *Legume* 1-celled, many-seeded. *Seeds* obovate. (*Don's Mill.*)

*Derivation.*—From *kerkis*, a shuttlecock, the name given by Theophrastus to this tree.

### 71. Cercis Siliquastrum.

The *common* Judas Tree.

Spec. Char.—Leaves very obtuse, and wholly glabrous. (*Dec. Prod.*)

Hab.—A low tree. Europe, in Greece, in Asiatic Turkey, and more especially in Judæa, on which account some think it should have been called Judah, and not Judas tree.

Local.—Eastern end of the border of the Lower Lawn. (A fine specimen of this tree may be seen near the Chapel, Holloway.)

Descript.—Height 20—30 ft. Introd. 1596. Flowers purplish pink; May. Legume brown; ripe in Sept. Naked young wood purplish, with small white spots.

Obs.—Gerard, in compliance with the popular notions of his time, says, "This is the tree whereon Judas did hang himselfe; and not upon the elder tree, as it is said." The flowers are numerous, and of a bright purplish pink, appearing before the leaves, in May. Both flowers and leaves are mixed with salads by the French, and the flower buds are pickled in vinegar. The leaves are cordate, reniform, and remarkably beautiful, having, as well as the young shoots, a fine purple tinge on their veins and petioles.

### 72. Cercis canadensis.

### The Canada Judas Tree.

Spec. Char.—Leaves acuminate, villose beneath at the axils of the veins. (*Dec. Prod.*)

Hab.—A low tree. Canada to Virginia.

Local.—Lawn facing the back of Brock Street.

Descript.—Height 10—20 ft. Introd. 1730. Flowers red; May and June. Legume brown; ripe in Aug.

Obs.—This tree bears a general resemblance to the preceding species; but it is more slender and smaller in all its parts, and does not bloom so freely. It is distinguished from C. Siliquastrum by its heart-shaped and pointed leaves. The young branches are said to dye wool of a nankeen colour.

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## Order XX. ROSACEÆ.

### The Rose Tribe.

Char.—*Flowers* regular. *Calyx* generally 5-lobed. *Petals* and *Stamens* arising from the calyx. *Stamens*

numerous. *Ovaries* many, or solitary; each of one cell, including from 1 to many ovules. *Style* lateral or terminal. (*G. Don.*)

A very numerous and beautiful order, all the species of which have flowers more or less resembling the Rose. It not only includes some of the most beautiful and ornamental shrubs and trees, but also the most useful and agreeable fruits of temperate climates; as the apple, the pear, the plumb, the cherry, the apricot, the peach, the nectarine, and the strawberry. It is divided into the five following sub-orders or sections; viz., Amygdaleæ, Spiræeæ, Potentilleæ, Roseæ and Pomeæ. Their general properties are astringent, chiefly found in the bark and roots.

### Sect. I. Amygdaleæ.

### AMYGDALUS. The Almond Tree.

(*Lin. Syst.* Icosandria Monogynia.)

Gen. Char.—*Drupe* clothed with velvety pubescence, having a dry rind, which separates irregularly, containing a pitted or smooth putamen or nut. (*Don's Mill.*)

*Derivation.*—From *amusso*, to lacerate, in reference to the fissured shell of the nut.

Trees and shrubs with showy flowers, pink or white, appearing before the leaves, from March to May. The leaves and kernel of the fruit of this section contain prussic acid, for which they are remarkable.

#### 73. Amygdalus communis.

#### The common Almond Tree.

Spec. Char.—Leaves oblong-lanceolate, serrulate. Flowers solitary. Calyx of a bell-shape. Fruit compressed, and rather egg-shaped. (*Dec. Prod.*)

Hab.—A middle-sized deciduous tree. Barbary.

Local.—Upper and Lower Lawn, and also Lawn near the Circus Hand-gate.

Descript.—Height 20—30 feet. Introd. 1538. Flowers white or rose-coloured; March and April. Drupe brownish; ripe in Oct.

Obs.—There are several varieties of the almond in cultivation on the Continent for their fruit; and two or three in this country, partly for the same purpose, but chiefly for their flowers, which are very showy early in the spring. The common almond, in a wild state, is found either with the kernels bitter or sweet, either of which may be considered the species, and the other classed under it as a variety. It is the bitter almond, or Amygdalus (c.) *amara*, that is found in the Park.

## PERSICA. The Peach Tree.

(*Lin. Syst.* Icosandria Monogynia.)

Gen. Char.—*Drupe* fleshy, with a glabrous or velvety apicarp, and having the putamen wrinkled from irregular furrows. (*Don's Mill.*)

*Derivation.*—So named from the peach coming originally from *Persia.*

The peach and the nectarine, though considered by some botanists to be distinct species, seem to be only varieties of one kind, of an improved or fleshy almond; the almond being to the peach and nectarine, what the crab is to the apple; and the sloe to the plum.

### 74. Persica vulgaris.

### The common Peach Tree.

Spec. Char.—Fruit clothed with velvety tomentum. (*G. Don.*)

Hab.—A deciduous tree. Persia.

Local.—

Descript. — Height 20—30 ft. Cultivated 1562, if not before. Flowers rose-coloured; March and April. Fruit red and yellow; ripe in Sept.

Obs.—Chiefly cultivated for its fruit and the varieties for ornament, of which there are several.

Var. 1. *P. v. flore pleno.* The double blossomed Peach. Local. —Upper Lawn. This is one of the most ornamental of spring-flowering trees, appearing when in full bloom, like one mass of intense pink. Its blossoms appear about three weeks later than the parent plant.

## PRUNUS. The Plum.

(*Lin. Syst.* Icosandria Monogynia.)

Gen. Char.—*Drupe* ovate or oblong, fleshy, quite glabrous, covered with a glaucous bloom; containing a compressed nut or putamen, which is acute at both ends, and a little furrowed on the margin, the rest smooth. (*Don's Mill.*)

*Derivation.*—Origin of the name not known, but supposed to be Asiatic. Very prolific in white blossoms, and some of the species producing useful fruit.

### 75. Prunus spinosa.

### The Sloe, or Black-Thorn.

Spec. Char.—Branches spiny. Leaves lanceolate, smooth. Flowers produced before the leaves, white and solitary.

Hab.—A low tree or shrub. Britain.

Local.—Hedge, road side, Lower Dell.

Descript. — Height 10 — 15 ft. Flowers white; March and April. Drupe black, flesh austere, ripe in Oct.

Obs.—The upright shoots of this species have long been celebrated throughout Europe for making excellent walking-sticks, and are more frequently taken from this tree than any other. Its leaves dried, are considered to form the best substitute for Chinese tea; and they have been extensively used for the adulteration of that article. The juice of the ripe fruit also is said to enter largely into the manufacture of the cheaper kind of port wine. For producing wildness and intricacy in park scenery, the sloe is of great value, and its effect is much heightened by the addition of the common furze or the broom.

## CERASUS. The Cherry.

(*Lin. Syst.* Icosandria Monogynia.)

Gen. Char.—*Drupe* globose, or umbilicate at the base, fleshy, quite glabrous, destitute of bloom, containing a smooth rather globose compressed stone. (*Don's Mill*).

*Derivation.*—From *Cerasus*, the ancient name of a town of Pontus in Asia, whence the cultivated cherry was first brought to Rome, by Lucullus, a Roman General, 68. B.C.

Showy trees, very hardy, of rapid growth, and producing abundance of white blossoms, and red or black fruit.

### 76. Cerasus sylvestris.

The wild Cherry Tree.

Spec. Char.—Flowers in nearly sessile umbels. Leaves ovate-lanceolate, pointed and serrated, folded flat in the bud; somewhat pendent and downy beneath, and furnished with two glands at the base.

Hab.—A middle sized tree. Europe, in woods and hedges.

Local.—Western end of the Upper Lawn.

Descript.—Height 40—50 ft. Flowers white,

April and May. Drupe red or black; ripe in July. Decaying leaves of a fine red, or rich yellow and red.

Obs.—This tree attains a large size, and its timber is of considerable value. It is very ornamental in shrubberies and woods and is famous for encouraging the different species of thrush.

### 77. Cerasus vulgaris.

### The common Cherry Tree.

Spec. Char. — Tree small, branches spreading. Flowers in sub-sessile umbels, not numerous. Leaves oval-lanceolate, toothed, glabrous. *(G. Don.)*

Hab.—A deciduous tree. Europe and Britain, in gardens and plantations.

Local.—Hort. Garden.

Descript.—Height 30 — 40 ft. Flowers white; May. Drupe red; ripe in July. Decaying leaves red and yellow.

Obs.—There are numerous cultivated varieties of this species, principally for its delicious fruit, which is a great favourite, particularly amongst children. The wood is soft and easily worked, and it takes a fine polish, and is much sought after by cabinet makers, turners, and musical instrument makers.

Var. 1. *C. v. flore semipleno.* The semidouble-flowered common cherry. Local.—Upper Lawn, and on the Lawn near the Obelisk.

### 78. Cerasus serrulata.

### The serrulated-*leaved* Cherry Tree.

Spec. Char.—Leaves obovate, accuminated, setaceously serrulated, quite glabrous. Petioles glandular. Flowers in fascicles. *(Don's Mill.)*

Hab.—A low spreading tree. China.

LOCAL.—Roadside, between the Obelisk and Pond.

DESCRIPT.—Height 4—10 ft. Introd. 1822. Flowers double white, tinged with red. The branches are very spreading; and the leaves have serrulated and glandular stipules, which are deciduous.

OBS.—The double Chinese Cherry, as it is sometimes called, has very handsome foliage, and abundance of fine white flowers. It somewhat resembles the common cherry tree, but is not of such vigorous growth; and only the double-flowered variety of it has been yet introduced. A very ornamental and desirable plant in every pleasure ground.

### 79. CERASUS CHAMÆCERASUS.

The Ground-Cherry Tree, or *Siberian Cherry.*

SPEC. CHAR.—Leaves small, obovate, obtuse, smooth with glandular serratures. Flowers in nearly sessile umbels.

HAB.—A small shrub or tree. Siberia and Germany.

LOCAL.—Centre lawn facing the City Entrance.

DESCRIPT. — Height 3 — 5 ft. Introd. 1587. Flowers white; May. Drupe reddish purple: ripe in Aug.

OBS.—This species forms a neat little narrow-leaved bush; which, when grafted standard high, becomes a small round-headed tree, with drooping branches, at once curious and ornamental, producing flowers and fruit great part of the summer.

### 80. CERASUS MAHALEB.

The Mahaleb, or *perfumed,* Cherry Tree.

SPEC. CHAR.—Leaves cordately ovate, denticulate, glanded, curved. Flowers in leafy subcorymbose

racemes. Fruit black, between ovate and round. (*Dec. Prod.*)

Hab.—A small tree. France and Austria.

Local.—Western side of the Lower Lawn.

Descript. — Height 10 — 30 ft. Introd. 1714. Flowers white; April and May. Drupe black; ripe in July.

Obs.—A handsome small tree. The whole of the plant is powerfully scented. Its wood is valuable to cabinet-makers on account of its fragrance, hardness, and the fine polish which it receives. In Austria it is used for forming the twisted tubes of tobacco pipes. It is also greatly in demand as fuel by the higher classes, as it exhales a fine odour when burning in open fire-places.

## 81. Cerasus Padus.

### The Bird-Cherry Tree.

Spec. Char.—Leaves ovate-lanceolate, somewhat acuminate, thin, serrulate, with the teeth rather spreading. Racemes long, leafy. Fruit round, bitter. (*Dec. Prod.*)

Hab.—A low tree. Britain, in woods and hedges.

Local.—In the hedge at the corner of the lawn facing the Obelisk, and also at the commencement of the Lower Dell by the Maples.

Descript.—Height 12 — 40 ft. Leaves with two glands on the underside at the base. Flowers white; April and May. Drupe black; ripe in July. Decaying leaves greenish yellow, or reddish. Branches spreading. Naked young wood purplish, with white spots.

Obs.—Very ornamental when in blossom, but the leaves are very subject to be eaten by caterpillars. Birds of several kinds eagerly devour the fruit, which is nauseous and probably dangerous to mankind; though perhaps, like that of the cherry-laurel, not of so deadly a quality as the essential oil, or distilled water, of the leaves. The wood being finely veined, it is much used by cabinet-makers on the Continent.

### 82. Cerasus lusitanica.
### The Portugal Laurel.

Spec. Char.—Evergreen, Leaves coriaceous, ovate-lanceolate, serrate, glandless. Racemes upright, axillary, longer than the leaves. (*Dec. Prod.*)

Hab.—An evergreen low tree. Portugal.

Local.—Upper Lawn. Frequent.

Descript.—Height 10 — 30 ft. Introd. 1648. Flowers white; June. Drupe dark purple; ripe in Sept. Young wood purplish black.

Obs.—A well-known and most beautiful hardy evergreen shrub, or low tree. It is generally planted solely as an ornamental evergreen; but sometimes hedges are formed of it in nursery-grounds and flower-gardens. The berries are greedily eaten by birds, and form a favourite food for pheasants.

### 83. Cerasus Laurocerasus.
### The Laurel-Cherry, or *Common Laurel.*

Spec. Char.—Evergreen. Leaves coriaceous, ovate-lanceolate, remotely serrate, bearing upon the under surface of the disk 2—4 glands. Racemes shorter than the leaves. Fruit ovate-acute. (*Dec. Prod.*)

Hab.—A large, rambling, evergreen, sub-prostrate shrub. Levant.

Local.—Very frequent. City entrance and Upper boundary in profusion.

Descript.—Height 6 — 20 ft. Introd. 1629. Flowers white; April and May. Drupe dark purple; ripe in Oct. Young shoots of a light green.

Obs.—This is one of our most popular and ornamental evergreens. It is also used for covering walls, or screening unsightly objects; and for hedges to afford shelter. It is very serviceable also for dressing up and decorating exhibitions and entertainments on all public and holiday occasions, triumphant entries, &c. Laurel leaves have a bitter taste, and the peculiar flavour of prussic acid. The flowers have a similar flavour; and the powdered leaves excite sneezing. The kernel-like-flavour of the fresh leaves has led to their use in custards, puddings, blanch-mange, and other culinary and confectionary articles; but as these leaves are poisonous, they ought to be used with great caution.

## Sect. II. Spiræeæ.

## KERRIA. The Kerria.

(*Lin. Syst.* Icosandria Polygynia.)

Gen. Char.—Calyx 5-cleft; lobes obovate, imbricate in æstivation. *Petals* 5, orbicular. *Stamens* about 20, icosandrious. *Carpels* 5—8, globose, free, glabrous, each ending in a filiform style. *Seed* solitary. (*Don's Mill.*)

*Derivation.*—Named in honour of W. *Ker*, a collector of plants for the Kew Gardens.

### 84. Kerria japonica.

### The Japan Kerria.

Spec. Char.—Leaves ovate, lanceolate, coarsely and unequally serrated, feather nerved; stipules linear, subulate. (*G. Don.*)

Hab.—A deciduous shrub. Japan.

Local.—

Descript.—Height 3—5 ft. Introd. 1835. Flowers yellow; March to Aug.

Obs.—A very ornamental shrub, producing a profusion of yellow flowers during the spring and summer. The above species was, until 1835, only known through a single specimen; but the double variety, which is generally seen against a wall and so long been very common, was introduced in 1700.

Var.—K. j. *flore pleno.*—The double-flowered Japan Kerria. Local.—Upper Lawn.

## SPIRÆA. The Spiræa.

(*Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char.—*Calyx* 5-cleft, permanent. *Stamens* 10—50, inserted in the torus, lining the calyx with the petals. *Carpels* solitary, or several together. *Seeds* 2—6. (*Don's Mill.*)

*Derivation.*—From *speira*, a cord, in reference to the supposed flexibility of the branches of some of the species; or according to some, from *speirao*, to wreath; in allusion to the fitness of the flowers, to be twisted into garlands.

Low deciduous shrubs, with conspicuous flowers of considerable elegance and beauty; natives of Europe, Asia, and America.

The leaves and bark of the Spiræas are said to have both astringent and emetic properties.

### 85. Spiræa opulifolia.

### The Guelder-Rose-leaved Spiræa.

Spec. Char.—Leaves ovate, 3-lobed, serrated. Corymbs stalked. (*Lindl.*)

Hab.—A large shrub. N. America.

Local.—Near the railing, upper boundary.

Descript.—Height 8—10 ft. Introd. 1690. Flowers

white; June and July. Capsule inflated, red; ripe in Sept. Decaying leaves purplish red, mixed with yellow. Naked young wood light brown.

Obs.—Hardy and very ornamental, from its abundance of white flowers, which are produced in corymbs, and resemble those of the Guelder Rose; and from the numerous inflated reddish capsules which succeed the flowers.

### 86. Spiræa chamædrifolia.

### The Germander-leaved Spiræa.

Spec. Char.—Leaves ovate, cut at the tip in a serrated manner, glabrous. Flowers upon long slender pedicels, in hemispherical corymbs. Sepals veiny, reflexed. (*Dec. Prod.*)

Hab.—An erect shrub. Siberia.

Local.—Hort. Garden.

Descript.—Height 2—8 ft. Introd. 1789. Flowers white; June and July. Capsule reddish; ripe in Sept. Naked young wood light brown.

Obs.—A very ornamental hardy shrub. In Kamschatka the leaves are used as a substitute for tea; and the shoots, when straight, are bored for tobacco pipes. In its wild state it is a very variable plant.

Var. 1. S. *c. subracemosa.* Flowers distantly disposed along a lengthened rachis. This variety is very frequent in the Park.

### 87. Spiræa (c.) ulmifolia.

### The Elm-leaved Spiræa.

Spec. Char.—Leaves ovate-lanceolate, acute, flat, sharply serrated, ciliated. Flowers terminal, in rather hemispherical corymbs. Sepals reflexed. *(Dec. Prod.)*

Hab.—An erect shrub. Siberia.

Local.—Upper and lower boundary.

Descript.—Height 3—5 ft. Introd. 1790. Flowers white; June and July.

Obs.—Considered one of the handsomest and most desirable species of the genus.

### 88. Spiræa hypericifolia.

### The Hypericum-leaved Spiræa.

Spec. Char.—Leaves obovate-oblong, 3—4 nerved, entire or toothed, glabrous, slightly downy. Flowers in either peduncled corymbs, or sessile umbels. Sepals ascending. *(Dec. Prod.)*

Hab.—An erect shrub. N. America.

Local.—Opposite the Donkey stand.

Descript.—Height 4—6 ft. Introd. 1640. Flowers white; June and July. Capsule reddish; ripe in Sept.

Obs.—A very variable species. The flowers are produced in great abundance; and when the shrub is allowed space to expand on every side, it forms a very beautiful bush in the flowering season.

### 89. Spiræa cuneifolia.

### The wedge-leaved Spiræa.

Spec. Char.—Leaves oval or obovate, obtuse, stalked, quite entire, villous; corymbs crowded, and as well as the branches tomentose. *(Don's Mill.)*

Hab.—An erect-branched canescent shrub, with the habit of S. hypericifolia. Nepal.

Local.—Eastern end of the Lower Lawn, and at the corner by Marlborough Buildings, near the S. hypericifolia.

Descript.—Height 3—6 ft. Introd. 1837. Flowers white, downy, in close corymbose panicles.

Obs.—The leaves are small, thick, downy, wedge-shaped, and either crenated near the point, or undivided; they are bright green on the upper side, and glaucous beneath, with nothing of a canescent appearance, which is only visible when they are dried.

### 90. Spiræa bella.

### The beautiful Spiræa.

Spec. Char.—Stems erect, branched, glabrous, and reddish. Leaves ovate, acute, sharply serrated, whitishly tomentose on the under surface. Sepals deflexed. (*Dec. Prod.*)

Hab.—An erect, loose-growing shrub. Nepal.

Local.—City entrance, and at the Upper boundary.

Descript.—Height 3—4 ft. Introd. 1820. Flowers beautiful rose-coloured, in corymbs laxly disposed; May and June. Capsule reddish; ripe in Sept.

Obs.—Very hardy and one of the most beautiful species of the kind. It is worthy a place in every garden and pleasure ground.

### 91. Spiræa salicifolia.

### The Willow-leaved Spiræa.

Spec. Char.—Stem and peduncles glabrous. Leaves lanceolate, serrated, and, more or less, doubly so; glabrous. Lobes of the calyx triangular, spreading. (*Dec. Prod.*)

Hab.—An erect shrub. Britain; in moist, shady, alpine situations.

Local.—

DESCRIPT.—Height 4—6 ft. Cultivated in 1655. Flowers red; July and Aug. Capsule red; ripe in Sept.

OBS.—This species sends up numerous straight rod-like stems, and these and the lateral branches terminate in large, conical, spiked panicles, of pale red, or flesh-coloured, flowers. It is one of the hardiest of garden shrubs, and is also very beautiful, from its long spicate panicles full of light feathery-looking flowers.

VAR. 1. *S. s. latifolia or obovata.* Leaves ovate-oblong. Petals white. Bark of branches rather reddish. LOCAL.—Western end of the border, Lower Lawn.

## 92. SPIRÆA ARIÆFOLIA.

### The White Beam-tree-leaved Spiræa.

SPEC. CHAR.—Leaves elliptical, oblong, more or less lobed, toothed, pale, villose beneath. Panicle villose. (*Dec. Prod.*)

HAB.—An erect bushy shrub. N. America.

LOCAL.—Horticultural Garden.

DESCRIPT.—Height 6—8 ft. Introd. 1827. Flowers white; June and July. Capsule reddish; ripe in Sept.

OBS.—A rapid growing, most elegant species, soon forming a bush 10 or 12 ft. in diameter and 6 or 8 ft. high, and producing a profusion of white flowers at a season when the flowering of shrubs is comparatively rare, renders it a valuable addition to British gardens and pleasure grounds.

## 93. SPIRÆA LINDLEYANA.

### Lindley's Spiræa.

SPEC. CHAR.—Leaflets ovate lanceolate, accuminate, finely and sharply serrated. *(G. Don.)*

HAB.—A large shrub. Nepal.

LOCAL.—Western end of the border, Lower lawn.

Descript.—Height 6—8 ft. Introd. 1835. Flowers white; July and Aug.

Obs.—A very beautiful and showy plant, with larger leaves than any other species of the genus, and large spikes of white flowers like plumes of feathers waving in the air.

The Spiræa *Aruncus*, seen in the border of the Lower lawn near the western end, is an herbaceous plant, and therefore not included in this work.

## Sect. III. potentilleæ.

## RUBUS. The bramble.

*(Lin. Syst.* Icosandria Polygynia.)

Gen. Char.—*Calyx* flattish at the bottom, 5-cleft. *Petals* 5. *Stamens* numerous, inserted in the calyx along with the petals. *Carpels* or *Achenia* numerous, fleshy, disposed in a head upon on elevated torus. *Styles* lateral, near the apex of the carpel. *(Don's Mill.)*

*Derivation.*—From *rub*, red in Celtic; in reference to the colour of the fruit in some of the species.

### 94. Rubus fruticosus.

The *common* Bramble, or *Blackberry.*

Spec. Char.—Stem angular, furrowed. Leaflets 3—5, obtuse, shining, and even above, hoary beneath. Panicle decompound, hoary.

Hab.—A large bramble. Britain, woods and hedges.

Local.—Side of the pond; and at the base of the statue Jupiter.

Descript.—Stem 6—12 ft. Flowers white or rose-coloured; June—Aug. Fruit purplish black; ripe in the Autumn.

Obs—This species is considered as attaining the largest size and the most common of the brambles, adding greatly to the wildness of rural scenery. The shoots are used by thatchers, makers of beehives, straw mats, &c. The fruit is much sought after by children, and is used to produce a sub-acid drink; an inferior kind of wine; by fermentation and distillation, a strong spirit; and boiled with sugar, a very good jam.

> "To me the wilderness of thorns and brambles,
> Beneath whose weeds the muddy runnel scrambles,—
> The bald, burnt moor—the marsh's sedgy shallows,
> Where docks, bullrushes, waterflags, and mallows
> Choke the rank waste, alike can yield delight.
> A blade of silver hair-grass nodding slowly
> In the soft wind; the thistle's purple crown,
> The ferns, the rushes tall, and mosses lowly,
> A thorn, a weed, an insect, or a stone,
> Can thrill me with sensations exquisite—
> For all are exquisite, and every part
> Points to the mighty hand that fashion'd it."
>
> *New Monthly Magazine.*

## 95. Rubus odoratus.

### The sweet-scented-*leaved* Bramble.

Spec. Char.—Leaves simple, palmate. Stem unarmed, many leaved, many flowered.

Hab.—An upright shrub. N. America.

Local.—Border of the Lower Lawn.

Descript.—Height 4—6 ft. Introd. 1700. Flowers purplish red; June to Sept. Fruit yellow, rarely seen in England.

Obs.—A very showy and elegant shrub, imparting both a fragrance and beauty to the surrounding scenery. A very desirable plant in every collection.

## POTENTILLA. The Potentilla.

(*Lin. Syst.* Icosandria Polygynia.)

Spec. Char.—*Calyx* 10—parted, the 5 outer segments accessory. *Petals* 5. *Stamens* numerous. *Carpels* numerous with lateral styles, seated on a dry permanent, elevated receptacle. (*Don's Mill.*)

*Derivation.*—From *potens*, powerful; in allusion to the supposed medicinal qualities of some species.

### 96. Potentilla fruticosa.

The shrubby Potentilla, or *Cinquefoil.*

Spec. Char.—Stem shrubby. Leaves pinnately cut, hairy. Leaflets linear, oblong, flat. Petioles long. Peduncles 1—2 flowered.

Hab.—A roundish bush. Britain; in mountainous thickets.

Local.—Upper Lawn.

Descript.—Height 2—4 ft. Flowers yellow; July and Aug. Fruit brown; ripe in Oct.

Obs.—A neat and pretty shrub, well deserving cultivation.

## Sect. IV. Roseæ.

## ROSA. The Rose Tree.

(*Lin Syst.* Icosandria Polygynia.)

Gen. Char.—*Calyx* urceolate, 5-cleft, fleshy, contracted at the orifice. *Petals* 5. *Stamens* numerous. *Carpels* numerous, bony, hairy, enclosed within the fleshy tube of the calyx, which at length becomes baccate and encloses them. (*Don's Mill.*)

*Derivation.*—From *rhos*, red, Celtic; in reference to the colour of the flowers of most of the species.

The Rose is considered the finest flowering shrub in the world. It is a native of the temperate regions of Europe, Asia, Africa, and America, but not of Australia. It has been in cultivation in the Old World, for the beauty and fragrance of its flowers from time immemorial.

### 97. Rosa damascena.

### The Damask Rose.

Spec. Char.—Prickles unequal, large ones falcate. Sepals reflexed. Fruit elongated. (*Don's Mill.*)

Hab.—A bushy shrub. Syria.

Local.—Upper Dell.

Descript.—Height 2—8 ft. Introd. 1573. Flowers large, white or red, single or double; June and July. Fruit red; ripe in Sept.

Obs.—There are a great many varieties of this species in cultivation. The otto, or attar, of roses is made from the petals of this rose, by distillation and skimming off the oil that comes over with the spirit. It may, however, be made from the flowers of any rose. Rose water is simply water distilled from an infusion of rose flowers, though to save this trouble it is more frequently made from the otto, or the Esprit de rose.

### 98. Rosa centifolia.

### The hundred-petaled, *Provence, or Cabbage* Rose.

Spec. Char.—Prickles unequal, large ones falcate. Leaflets ciliated with glands. Flowers drooping. Calyxes clammy. Fruit oblong. (*Don's Mill.*)

Hab.—A bushy shrub. S. Europe.

Local.—Upper Lawn.

Descript.—Height 3—6 ft. Introd. 1596. Flowers

white or red; single, but most commonly double; June or July. Fruit red; ripe in Sept.

Obs.—There are a great many varieties also of this rose in cultivation; many of which are very common, but not the less beautiful; and are much admired for their variety of hue and fragrance. It is distinguished from R. *damascena* by the sepals not being reflexed, and the flowers having their petals curved inwards, so as, in the double state, to give the flower the appearance of the heart of a cabbage, whence the name of the rose. From R. *gallica* it is distinguished by the flowers being drooping, and by the larger size of the prickles, with a more robust habit.

### 99. Rosa gallica.
### The French Rose.

Spec. Char.—Prickles unequal. Stipules narrow. Leaflets 5—7, coriaceous, rigid, elliptic. Flower-bud ovate-globose. Sepals spreading during flowering. Fruit sub-globose, very coriaceous. Calyx and peduncle more or less hispid with glanded hairs, somewhat viscose. *(Dec. Prod.)*

Hab.—A bushy shrub. S. Europe.

Local.—Upper Lawn.

Descript.—Height 2—3 ft. Introd. 1596. Flowers red, crimson, or white, single or double; June and July. Fruit red; ripe in Aug.

Obs.—The varieties of this species are very numerous. The petals of some of the varieties of this rose are used in medicine, particularly of that called officinal; which, though not so fragrant as those of the Dutch hundred-leaved rose, another variety, are preferred for their beautiful colour and their pleasant astringency.

### 100. Rosa alba.
### The *common* white Rose.

Spec. Char.—Leaflets oblong, glaucous, rather naked

above, simply serrated. Prickles straightish or falcate, slender or strong, without bristles. Sepals pinnate, reflexed. Fruit unarmed. *(Don's Mill.)*

Hab.—A large shrub. Crimea.

Local.—Upper Lawn.

Descript.—Height 4—10 ft. Introd. 1597. Flowers large, either white, or of the most delicate blush colour, with a grateful fragrance; June and July. Fruit oblong, scarlet, or blood-coloured; ripe in Sept.

Obs.—The garden varieties are very numerous; many of which are very beautiful and great favourites.

### 101. Rosa rubiginosa.
### The Sweet Briar.

Spec. Char.—Prickles hooked. Leaflets elliptical, doubly serrated, hairy, clothed beneath with rusty-coloured glands. Sepals pinnate. Fruit obovate, bristly towards the base.

Hab.—A rambling shrub. Britain.

Local.—Upper Lawn. Frequent.

Descript.—Height 4—6 ft. Flowers pink; June and July. Fruit scarlet, obovate or elliptic; ripe in Sept.

Obs.—The Sweet Briar is well known from its fragrance after a shower, as also its sweet scented leaves when bruised. It is a great favourite in every garden and pleasure ground, where it merits a place.

### 102. Rosa canina.
### The *common* Dog Rose.

Spec. Char.—Prickles strongly hooked. Leaflets

simply serrated, pointed, quite smooth. Sepals pinnate. Fruit ovate, smooth, or rather bristly, like the aggregate flower stalks. *(Don's Mill.)*

Hab.—A rambling shrub. Britain, in hedges, woods and thickets.

Local.—Hort. Gard.

Descript.—Height 6—10 ft. Flowers rather large, pale red, seldom white; June and July. Fruit scarlet; ripe in Sept.

Obs.—There are many varieties of this species. Perhaps no plant is more generally known or admired, from its gracefully adorning our hedges and waysides in the summer. The fruit is of a bright scarlet, called Hips, and is of a peculiar and very grateful flavour, especially if made into a conserve with sugar.

### 103. Rosa sarmentacea.

The Sarmentaceous, *or trailing Dog* Rose.

Spec. Char.—Prickles hooked. Leaflets ovate, doubly serrated, smooth, glandular. Peduncles aggregate, smooth, or minutely bristly. Sepals pinnate, deciduous. Fruit broadly elliptic, naked. *(Don's Mill.)*

Hab.—A rambling shrub. Britain, in hedges.

Local.—Lower Dell.

Descript.—Height 8—10 ft. Flowers pink, and fragrant; June and July. Fruit scarlet; ripe in Sept.

Obs.—This is the species most commonly made choice of as a stock for garden roses. It is equally common with the *R. canina*, with which it is very apt to be mistaken, and indeed was formerly included under that name. It is well adapted for bowers, screens and covers; or where wildness and romantic scenery is desired.

### 104. Rosa indica.

### The Indian, *or common China* Rose.

Spec. Char.—Stem upright, whitish, green, or purple. Prickles stout, falcate, distant. Leaflets 3—5 ; ovate-acuminate, coriaceous, shining, glabrous, serrulate. Stipules narrow. *(Dec. Prod.)*

Hab.—Sub-evergreen. China.

Local.—Horticultural Garden.

Descript.—Height 4—20 ft. Introd. 1789. Flowers solitary or in panicles, red, usually semi-double. Stamens bent inwards. Peduncle sub-articulate, mostly thickened upwards, and with the calyx smooth, or wrinkled and bristly. April to Nov. Fruit red ; ripe in Sept. The surfaces of the leaves are mostly of different colours.

Obs.—There are numerous varieties and hybrids of this beautiful rose, some of which have a most delicious fragrance, strongly resembling the scent of the finest green tea. It is one of the most charming of roses, flowering profusely, when properly treated, all the summer.

### 105. Rosa arvensis.

### The Field Rose.

Spec. Char.—Prickles unequal, falcate. Leaflets serrate and glaucous beneath. Styles combined. Root-shoots flagelliform.

Hab.—Trailing or climbing, deciduous, or sub-evergreen. Britain, in hedges.

Local.—Hort. Gard.

Descript.—Stems 20—40 ft. Flowers white ; July. Fruit ovate, crimson, glabrous, or a little hispid, as well as the peduncles ; ripe in Sept.

Obs.—In open situations a trailing plant, sending forth an abundance of glaucous, often mahogany-coloured, arching branches, many feet in length; reaching to the tops of hedges and bushes, covering them with tufts of foliage and flowers; the leaves remaining on late in the season, and the fruit often remaining on all the winter.

Var. 1. *R. a. hybrida;* has semi-double flowers, of a most delicate flesh colour. Local.—The statue Jupiter.

## Sect. V. Pomeæ.

## CRATÆGUS. The Thorn.

*(Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char.—*Calyx* with an urceolate tube, and a 5-cleft limb. *Petals* orbicular, spreading. *Ovarium* 2—5-celled. *Styles* 2—5, glabrous. *Pome* fleshy, ovate, closed; the calycine teeth, or the thickened disk, containing a bony putamen. *(Don's Mill.)*

*Derivation.*—From *kratos*, strength; in reference to the hardness and strength of the wood.

A very ornamental genus of small hardy trees, valuable for the neatness of their foliage, the earliness of their flowers in spring, and the rich colors of their berries in Autumn. They are natives of Europe and N. America, and some of them of Asia and the North of Africa. They are well adapted for small gardens and for planting suburban residences, because they soon come to perfection, do not grow large, and have an old matured appearance even when young.

### i. *Coccineæ.*

### 106. Cratægus coccinea.

### The scarlet-*fruited* Thorn.

Spec. Char.—Disks of leaves cordate-ovate, angled with lobes, acutely serrated, glabrous. Petioles and calyxes pubescent, glanded. Petals orbiculate. Styles 5. Fruit scarlet, eatable. (*Dec. Prod.*)

Hab.—A low tree. N. America, woods and hedges.

Local.—Lawn facing the City entrance.

Descript.—Height 15—20 ft. Introd. 1683. Flowers white; May and June. Fruit large, round, somewhat pear-shaped, scarlet; ripe in Sept. Decaying leaves yellow, inclining to scarlet. Naked young wood dark coloured; old wood with a whitish bark.

Obs.—This is a beautiful and showy plant, of which there are several very handsome and desirable varieties. In this species both leaves and fruit are larger than in most of the genus. It deserves a place in every collection, as well as its varieties.

*Var.* 1. *C. c. corallina.* Smaller than the species. Local.—Eastern end of the Lower Lawn.

Var. 2. *C. c. indentata.* The indented leaved, scarlet fruited Thorn. In this variety the leaves are smaller, and less lobed, than those of the species; the plant is also weaker, of upright habit, and with a smooth clear bark. It is very twiggy and most prolific in flowers and fruit. Local.—By the railing, nearly opposite the statue Jupiter. A very beautiful tree.

*Var.* 3. *C. c. maxima.* The leaves and fruit larger than in the species. Local.—

## 107. Cratægus glandulosa.

### The glandular, or hollow-leaved Thorn.

Spec. Char.—Leaves with the disk obovate-wedge-shaped, angled, glabrous, glossy. Petioles, stipules, and sepals glanded. Fruit oval, scarlet; nuts 4—5; flesh hard and dry. *(Dec. Prod.)*

Hab.—A low tree. N. America.

Local.—Against the railing, Hort. Gard.*

Descript.—Height 12—15 ft. Introd. 1750. Flowers white; May and June. Fruit scarlet; ripe in Sept.

Obs.—Being a small compact tree, of somewhat conical or fastigiate habit, and of comparatively low growth, and yet very prolific in

flowers and fruit, it is well adapted for lawns. It is full of branches and very spiny; and is remarkable for the concave or hollow appearance of the leaves resembling a spoon.

VAR. 1. *C. g. subvillosa.* A distinct variety with villous twisted leaves, and stunted tortuous shoots. LOCAL.—

### ii. *Punctatæ.*

### 108. CRATÆGUS PUNCTATA.

### The dotted-*fruited* Thorn.

SPEC. CHAR.—Leaves obovate-wedge-shaped, glabrous, serrated. Calyx a little villose; its sepals awl-shaped, entire. Fruit usually dotted. *(Dec. Prod.)*

HAB.—A small tree. N. America.

LOCAL.—Near the entrance, Hort. Gard.

DESCRIPT.—Height 15—30 ft. Introd. 1746. Flowers white; May and June. Fruit scarlet; ripe in Sept. Leaves dropping yellow. Naked young wood grey.

OBS.—The wood is very hard in this species, so much so that the Indians of the west coast of America make wedges of it for splitting trees. This quality might be rendered serviceable to the turners in this country.

VAR. 1. *C. p. rubra.* This is the most common form, and is a spreading tree, with red fruit, and when old, with few thorns. LOCAL.—Lawn, by the pathway at the upper boundary.

VAR. 2. *C. p. aurea.* Like the above variety, but with yellow fruit. LOCAL.—

### 109. CRATÆGUS PYRIFOLIA.

### The Pear-tree-leaved Thorn.

SPEC. CHAR.—With or without spines. Leaves ovate-elliptical, incisely serrated, obscurely plaited, a little hairy. Flowers 3-styled. Calyx slightly villose; its sepals linear-lanceolate, serrated. *(Dec. Prod.)*

HAB.—A low tree, generally spineless. N. America.

LOCAL.—By the pathway at the top, leading from the road to the Lower Dell.

DESCRIPT.—Height 20—25 ft. Introd. 1765. Flowers white; June and July. Fruit small, yellowish red; ripe in Sept. The leaves drop early, of a rich yellow.

OBS.—This speeies at first sight resembles C. punctata, but is later in bloom. The fruit is small and slender, and more eagerly sought after by birds than those of any other speeies. The leaves are also more strongly plaited, having the appearanee of being furrowed from the midrib to the margin.

### iii. *Macracanthæ.*

### 110. CRATÆGUS MACRACANTHA.

### The long-spined Thorn.

SPEC. CHAR.—Spines longer than the leaves, and numerous. Leaves ovate-oblong, somewhat acuminate, slightly lobed and bluntly serrated, nerved, and sub-plicate. (*G. Don.*)

HAB.—An open spreading tree. N. America.

LOCAL.—Western side of the Lower Lawn.

DESCRIPT.—Height 10—30 ft. Introd. 1819. Flowers white; May and June. Fruit scarlet; ripe in Sept.

OBS.—This is a remarkable tree from the length of its thorns and straight oblique shoots. It is also very vigorous in its growth.

### iv. *Crus-galli.*

### 111. CRATÆGUS CRUS-GALLI.

### The Cock's-spur Thorn.

SPEC. CHAR.—Spines long. Leaves obovate-wedge-

shaped, nearly sessile, glossy. Stipules linear. Lobes of the calyx lanceolate. Styles 2. Fruit scarlet. (*Dec. Prod.*)

Hab.—A low tree. N. America.

Local.—Holly Lawn, near the Obelisk.

Descript.—Height 15—20 ft. Introd. 1691. Flowers white; May and June. Fruit small, green, and at length scarlet; ripe in Sept. and Oct.

Obs.—This species (as well as its varieties) is very beautiful and well adapted for lawns and gardens. It was one of the first introduced into England, and has been more cultivated than any other American thorn. From its retaining its leaves and fruit in warm sheltered situations through great part of the winter, it has the appearance of a sub-evergreen.

Var.—1. *C. C. splendens.*—The splendid Cock's-spur Thorn. Local.—Hort. Gard.

Var.—2. *C. C. pyracanthifolia.*—The Pyracantha-leaved Cock's-spur Thorn. Local.—Lower lawn, and Hort. Gard.

Var.—3. *C. C. salicifolia.*—The willow-leaved Cock's-spur Thorn. A low flat-headed tree, with smaller leaves than the preceding variety. Local.—

## 112. Cratægus (C.) ovalifolia.
### The oval-leaved Thorn.

Spec Char.—Leaves oval, serrated, shining on the upper surface. Stipules half-heart-shaped, incisely serrated, with glanded serratures. (*Dec. Prod.*)

Hab.—A low tree. N. America.

Local.—Bottom of the Hort. Gard. facing the entrance.

Descript.—Height 15—20 ft. Introd. 1810. Flowers white.

Obs.—Apparently but a distinct variety of the former species, with a loose spreading habit of growth, and light green, thin, broad leaves.

### 113. Cratægus (C.) prunifolia.

### The Plum-leaved Thorn.

Spec. Char.—Leaves broadly ovate, unequally serrated, and glabrous; the petioles bearing a few glands. Sepals with glanded serratures. Peduncle and calyx a little villose. Seeds 2 in a pome. (*Dec. Prod.*)

Hab.—A low tree. N. America.

Local.—Hort. Garden, and South side of the road near the Obelisk, opposite the grass mound.

Descript.—Height 15—20 ft. Introd. 1818. Flowers white; May and June. Fruit scarlet.

Obs.—This plant differs from the preceding variety, in having broader and shorter leaves, a more compact and fastigiate habit of growth, and rather more thorns on the branches.

## v. *Nigræ.*

### 114. Cratægus nigra.

### The black-*fruited* Thorn.

Spec. Char.—Leaves sinuately lobed, and serrated; whitely villose beneath. Stipules oblong, serrately cut. Calyxes villose. Styles 5. Fruit black. (*Dec. Prod.*)

Hab.—A low tree. Hungary.

Local.—By the Holly Lawn, near the Obelisk.

Descript.—Height 15—30 ft. Introd. 1819. Flowers white; April and May. Fruit black; ripe in July and Aug.

Obs.—This is a very handsome, erect, vigorous-growing species, putting forth its leaves, in mild seasons, in Feb. and March. It is liable to be eaten by caterpillars early in the season, which is probably the reason why this species is said to attract the nightingale.

### 115. Cratægus purpurea.

The purple-*branched* Thorn.

Spec. Char.—Branches dark purple. Leaves ovate, lobed, serrated, glabrous or pubescent beneath. Stipules somewhat circular, with glanded serratures. (*Dec. Prod.*)

Hab.—A shrub or low tree. Altaic Mountains.

Local.—Western end of the Upper Lawn, near the railing.

Descript.—Height 6—10 ft. Introd. 1822. Flowers white; early in April. Fruit dark red or purple, sometimes yellow, very succulent; ripe in July.

Obs.—This tree is interesting from its early flowering, and the dark colour of the anthers of its flowers, which contrasts strongly with the whiteness of the petals. It forms an upright, rigid, rather slow-growing tree, without thorns.

## vi. *Douglasii.*

### 116. Cratægus Douglasii.

Douglas's Thorn.

Spec. Char.—Branches ascending. Spines rigid, straightish. Leaves obovate or oval, gashedly serrated, acute; at the base wedge-shaped, glabrous.

Hab.—A shrub or low tree. N. W. America.

Local.—Bottom of the Hort. Gard.

Descript.—Height 10—15 ft. Introd. 1827. Flowers white; May. Leaves are leathery in the autumn, of a purplish cast and shining. Fruit small, dark purple; ripe in Aug.

Obs.—A very ornamental tree. It is named in memory of the botanical collector, Douglas, who, after sending home a greater

number of hardy ornamental plants than were before sent home by any other individual, at last met a horrible death in the Sandwich Islands, by falling into a pit formed for ensaring wild bulls, by one of which he was gored to death.

### vii. *Flavæ.*

### 117. Cratægus flava.

### The yellow-*fruited* Thorn.

Spec. Char.—Leaves obovate, cuneiform, angular, smooth, shining. Petioles, stipules and calyx glandular. Flowers mostly solitary. Fruit top-shaped, yellow, or yellowish green, 4 seeded. (*Dec. Prod.*)

Hab.—A low spreading tree. N. America.

Local.—

Descript.—Height 15—20 ft. Introd. 1724. Flowers white; May. Haws yellow; ripe in Oct. Decaying leaves rich yellow, tinged with red.

Obs.—The flowers and the fruit are neither produced in abundance, nor make any great show; but the tree has a marked character from its general form, and the horizontal tendency of its branches.

### 118. Cratægus (f.) lobata.

### The lobed-*leaved* Thorn.

Spec. Char.—Branches a little villose. Leaves ovate, unequally serrated, or lobed, slightly downy beneath, upon very short petioles. Stipules cut. Flowers in loose corymbs. (*Dec. Prod.*)

Hab.—Resembling C. flava in general appearance. America.

Local.—

Descript.—Height 10—15 ft. Introd. 1819. Flowers white; May. Fruit green; ripe in Oct.

Obs.—It differs from C. flava in having some of the leaves with larger lobes, and some of the spines larger.

### viii. *Apiifoliæ.*

### 119. Cratægus apiifolia.

### The Parsley-leaved Thorn.

Spec. Char.—Leaves deltoid, cut into lobes that are acute and incisely toothed. Pedicels in the corymb villose, mostly simple. Tube of calyx villose. Sepals obscurely serrated. Fruit scarlet. (*Dec. Prod.*)

Hab.—A low spreading tree. N. America.

Local.—Upper Dell.*

Descript.—Height 10—20 ft. Introd. 1812. Flowers white; May and June. Haws scarlet; ripe in Oct. Decaying leaves rich yellow.

Obs.—A very ornamental tree.

(Many of the foregoing and following species and varieties of Cratægus, may be seen at Mr. Pinder's, Brookfield House, Weston-road; the grounds of which were laid out under the direction of the late Dr. Loudon, and hence the greater interest is given to the examination and preservation of these beautiful specimens.)

### ix. *Microcarpæ.*

### 120. Cratægus cordata.

### The heart-shaped-*leaved* Thorn.

Spec. Char.—Leaves cordate-ovate, angled by lobes, glabrous. Petioles and Calyxes without glands. Styles 5. (*Dec. Prod.*)

Hab.—A small tree. N. America.

Local.—Right hand side of the centre path, Hort. Gard.

Descript.—Height 20—30 ft. Introd. 1738. Flowers white, in numerous terminal corymbs; May and June. Fruit small, scarlet; ripe in Oct.

Obs.—A very distinct and handsome species, with a compact, close head, and heart-shaped leaves, of a deep shining green. It is one of the latest flowering thorns, and very showy in the autumn from its numerous, small, coral-like, scarlet berries.

### 121. Cratægus spathulata.

### The spathula-*shaped-leaved* Thorn.

Spec. Char.—Sub-spinose. Leaves in fascicles, oblong-cuneated, 3-cleft, lobed and crenated, smooth, shining. Corymbs many-flowered. Calyx smooth. Fruit ovate, 5-celled; shell thin. (*Lindl.*)

Hab.—A low tree. N. America.

Local.—

Descript.—Height 6—15 ft. Introd. 1806. Flowers white; May and June. Fruit small, bright red; ripe in Oct.

Obs.—A slow-growing, very neat little bush or tree, with slender, smooth drooping branches, with the habit of C. Oxyacantha. Its leaves have a very handsome appearance, and are remarkably shining, and deep green, growing in clusters.

## x. *Azaroli.*

### 122. Cratægus Azarolus.

### The Azarole Thorn.

Spec. Char.—Leaves pubescent, wedge-shaped at the base, trifid. Branchlets, corymbs, and calyxes pubes-

cent. Sepals obtuse. Styles 1—3. Fruit globose, scarlet. Seeds usually 2. (*Dec. Prod.*)

Hab.—A low tree. S. France and Italy.

Local.—

Descript.—Height 10—20 ft. Introd. 1656. Flowers white; May and June. Fruit red; ripe in Sept.

Obs.—A beautiful species and of great durability. It is recommended by the older writers on gardening, to be cultivated for its fruit, which is much esteemed in the South of Europe.

### 123. Cratægus (A.) maroccana.
### The Morocco Thorn.

Spec. Char.—Leaves wedge-shaped, 3-lobed, and pinnatifid, glabrous, glandless. Stipules cut, rather palmately. Flowers corymbose. Sepals obtuse. Styles 2. (*Dec. Prod.*)

Hab.—A low tree. Morocco.

Local.—

Descript.—Height 15—35 ft. Introd. 1822. Flowers pure white, very fragrant; May and June. Fruit scarlet; ripe in Oct.

Obs.—One of the handsomest species of the genus. It produces its leaves very early in the season, in mild winters even in January; and retains them very late. The branches are dark-coloured and the head of a conical shape.

### 124. Cratægus Aronia.
### The Aronia Thorn.

Spec. Char.—Branchlets pubescent. Leaves pubescent on the under surface, wedge-shaped at the base,

3-cleft; lobes obtuse, entire, each ending in 3 obtuse mucronate teeth. Fruit yellow. (*Dec. Prod.*)

Hab.—An erect-branched low tree. Greece and the Levant.

Local.—Lower Lawn.

Descript.—Height 15—20 ft. Introd. 1810. Flowers white; May and June. Haws yellow, ripe in Aug. and Sept. Naked young wood dark-coloured.

Obs.—Remarkable for the abundance of its large yellow smooth fruit, which hangs on the tree till the leaves drop in Nov. and Dec. It is succulent and good to eat, and has been made into excellent tarts with Siberian crabs.

### 125. Cratægus orientalis.
### The Eastern Thorn.

Spec. Char.—Branches whitely tomentose. Leaves 3-lobed, downy beneath; the two side lobes ovate, and having tooth-like incisions at the tip; the middle lobe trifid. Stipules broad and cut. (*Dec. Prod.*)

Hab.—A low spreading tree. Levant.

Local.—Hort. Gard.

Descript.—Height 15—20 ft. Introd. 1810. Flowers white, very fragrant; May and June. Haws numerous, large, yellowish red or coral colour; ripe in Aug. and Sept.

Obs.—Readily distinguished from most other species by its very hoary branches, which are loose, rambling, crossing each other, and somewhat pendulous. Its leaves and flowers are produced late in the season; and from the fragrance of the latter it is also named Cratægus odoratissima.

Var. 1. *C. o. sanguinea.* A beautiful variety from the colour, size, and abundance of the fruit; which is of a purplish red, or port wine colour. Local.—

### 126. Cratægus tanacetifolia.
### The Tansy-leaved Thorn.

Spec. Char.—Leaves pinnatifidly cut, hairy; lobes oblong, acute, having a few teeth. Sepals acutish, reflexed, hairy. Styles 5. Fruit globose, yellowish green. *(Dec. Prod.)*

Hab.—A robust-growing fastigiate tree. Levant.

Local.—

Descript.—Height 20—30 ft. Introd. 1789. Flowers white; May and June. Haws large, yellow; ripe in Oct.

Obs.—The leaves and calyxes are covered with long hairs. The fruit is somewhat ribbed like a melon and distinguished by the bracteas generally adhering to it. The branches are upright and rigid, generally terminating in thorny points. The foliage is late.

Var. 1. *C. t. glabra*, has shining leaves, and fruit about half the size of that of the species, of a reddish yellow. Local.—

Var. 2. *C. t. Celsiana, or Leeana*, is a fine and splendid variety, somewhat resembling C. orientalis; but the leaves much larger, and more deeply cut, and altogether of a more robust, erect, and fastigiate habit. Fruit large, yellow. Local.—

## xi. *Heterophylla.*

### 127. Cratægus heterophylla.
### The various-leaved Thorn.

Spec. Char.—Leaves lanceolate-cuneate, toothed at the apex, 3-cleft; segments serrate. Cymes many-flowered. Flowers 1-styled. Fruit ovate. Stipules large, pinnatifid.

Hab.—A low tree, with ascending branches. South Europe.

Local.—Holly Lawn, near the Obelisk.

Descript.—Height 10—20 ft. Cultivated in 1816. Flowers white, May. Fruit rich crimson; ripe in Sept. and Oct.

Obs.—A very handsome and most desirable species; producing its leaves and flowers in abundance, early in the spring; and retaining its foliage and beautiful crimson fruit, till the first autumnal frosts. The leaves are somewhat coriaceous and shining.

### xii. *Oxyacanthæ.*

### 128. Cratægus Oxyacantha.

### The Common Hawthorn.

Spec. Char.—Leaves obovate wedge-shaped, almost entire, or trifid or cut, glabrous, rather glossy. Corymbs of several flowers. Sepals glandless, acute. Styles 1—3. (*Dec. Prod.*)

Hab.—A shrub or low tree. Britain.

Local.—Frequent in the Park, and principally constituting the hedge in the boundary.

Descript.—The wood is very hard, with a smooth blackish bark. Branches with lateral, sharp, small, awl-shaped thorns. Flowers white; May. Haws red or scarlet; ripe in Sept.

Obs.—"Few of our native plants," observes Sir J. W. Hooker, "present a more beautiful sight than a well-grown bush of Hawthorn, with its dense masses of white and fragrant flowers, backed by the shining dark green leaves." There are many varieties of this species, some of which are highly ornamental, especially the single and double rose and scarlet-blossomed. It forms an excellent fence and its fruit is the support of birds in the winter. From the hardness of its wood, it is employed for the handles of hammers, the teeth of mill-wheels, for flails and mallets, and when heated at the fire, for canes and walking sticks.

VAR. 1. *C. O. stricta.* The upright-growing Co. Hawthorn; has the shoots upright, and the general habit as fastigiate as that of a Lombardy poplar. LOCAL.—Upper dell.

2. „ *pendula;* has drooping branches. LOCAL.—Upper Lawn.

3. „ *reginæ.* Queen Mary's Thorn. LOCAL.—Eastern end of the Lower Lawn.

4. „ *rosea.* The rosy-flowered Co. Hawthorn; has the petals pink, with white claws, and is a well known and very beautiful variety. LOCAL.—Border near Marlborough Bdgs. Frequent in the Park.

5. „ *rosea flore pleno.* The double rosy-flowered Co. Hawthorn. LOCAL.—Holly Lawn.

6. „ *punicea.* The scarlet-flowered Co. Hawthorn; has larger petals, which are of a dark red, and without white on the claws. LOCAL.—Frequent. Lawn opposite the City entrance and western end of the Lower Lawn.

7. „ *punicea flore pleno.* The double scarlet flowered Co. Hawthorn; has the flowers double, and nearly as dark and brilliant as C. O. punicea. LOCAL.—Holly Lawn near the Obelisk.

8. „ *multiplex.* The double white-flowered Co. Hawthorn; has double white flowers, which die off a beautiful pink; and which, being produced in great profusion, and lasting a long time, render thi a most desirable variety. LOCAL.—Holly Lawn, near the Obelisk.

9. „ *aurea.* The golden-fruited Co. Hawthorn; has the leaves like C. O. obtusata, and the fruit roundish and of a golden yellow. LOCAL.—Eastern end of the Lower Lawn. A very beautiful variety, which ought to be in every collection.

10. „ *præcox.* "The early-flowering, Glastonbury or Holy Thorn, comes into leaf in January or February, and sometimes even in autumn; so that occasionally, in mild seasons it may be in flower on Christmas-day. The original tree stood in the

burying ground of Glastonbury Abbey. It is said to have sprung from the staff of Joseph of Arimathea, who is supposed to have introduced Christianity into that part of England. As the thorn will root from cuttings of the old wood, on the supposition that Joseph's staff was a green cudgel, perhaps cut from the first bush he met with after setting his foot on shore, to defend himself from the savage inhabitants, the fact of its rooting and becoming a tree may be literally true."—*Loudon.* LOCAL—Upper Lawn.

VAR 11. *C. O. obtusata.* The obtuse-leaved Co. Hawthorn; is distinguished from the species by its smaller, obovate, less cut, flat, and shining leaves. LOCAL.—Western end of the Lower Lawn.

### xiii. *Parvifoliæ.*

### 129. CRATÆGUS PARVIFOLIA.

### The small-leaved Thorn.

SPEC. CHAR.—Leaves oval-lanceolate, incisely serrated and pubescent. Flowers mostly solitary. Branchlets and calyxes villose. Stipules bristle-like. Sepals serrated. Fruit yellow. Nuts 5. (*Dec. Prod*).

HAB.—A low shrub. N. America.

LOCAL.—Border of the Lower Lawn, near the centre gate.

DESCRIPT.—Height 4—6 ft. Introd. 1713. Flowers white; May and June. Haws large, greenish yellow; ripe in Nov.

OBS.—This species is liable to vary, either in the size of the fruit; entire or lobed leaves, or the absence or presence of spines. The fruit often hangs on the tree all the winter. As these are small plants with flowers large in proportion to the size of the leaves, they are well adapted for exemplifying the genus Cratægus in a miniature arboretum.

### xiv. *Mexicana.*

### 130. Cratægus mexicana.

### The Mexican Thorn.

Spec. Char.—Leaves oval-lanceolate, notched and serrated, acuminate; ciliated at the base. Petioles short, channeled and winged. Stipules stalked. Corymbs terminal. (*G. Don.*)

Hab.—A low evergreen or sub-evergreen tree. Mexico.

Local.—Eastern side of the centre gate, Lower Lawn.

Descript.—Height 10—15 ft. Introd. 1824. Flowers large, white; June. Fruit large, pale green, or yellowish, when ripe in Oct.

Obs.—A remarkable and very handsome species; its fruit resembling a small apple, but not good to eat. In general appearance, it is like the Mespilus Smithii, or grandiflora, and is apt to be mistaken for it. In sheltered situations the leaves, which are shining and coriaceous, remain on the tree all the winter.

### xv. *Pyracantha.*

### 131. Cratægus Pyracantha.

### The fiery Thorn, *or Pyracantha.*

Spec. Char.—Evergreen. Leaves glabrous, ovate-lanceolate, crenate. Lobes of the calyx obtuse. Styles 5. Fruit globose, scarlet. (*Dec. Prod.*)

Hab.—An evergreen shrub. S. Europe, in rugged places and hedges.

Local.—Border of the Lower Lawn; Western end.

Descript.—Height 4—6 ft. Introd. 1629. Flowers white; May. Fruit red, ripe in Sept.

Obs.—A well known and very ornamental species, especially when trained against a wall, the fruit remaining on all the winter. It has a very showy and elegant appearance, covered with its brilliant scarlet berries, which has given rise to the Canadian name of Burning Bush.

(All the foregoing species and varieties of Cratægus whose Localities are not stated, have been budded in the Nursery ground, and in time will be transplanted to desirable situations as may be determined upon, when it is hoped they will be duly labelled.)

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## PHOTINIA. The photinia.

(*Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char. — *Calyx* 5-toothed. *Petals* reflexed. *Ovarium* semi-adherent, villous, 2-celled. *Styles* 2, glabrous. *Pericarp* 2-celled, enclosed in the fleshy calyx. *Testa* cartilaginous. (*Don's Mill.*)

*Derivation.*—From *photeinos*, shining; in allusion to the lucid surface of the leaves.

### 132. Photinia serrulata.

The serrulated-*leaved* Photinia.

Spec. Char. — Leaves oblong, acute, serrulated. Pedicels longer than the calyx. Buds large, red. (*Dec. Prod.*)

Hab.—An evergreen shrub or low tree. China.

Local.—Opposite the Donkey Stand.

Descript.—Height 12—15 ft. Introd. 1804. Flowers white; April and May. Fruit rarely produced in England.

Obs.—The young shoots and leaves are remarkable for their deep red, or mahogany colour; and the decaying leaves exhibit this colour much more intensely, mixed with a fine yellow or scarlet. Altogether it forms a very splendid plant, when trained against a wall; or in warm sheltered situations, as a standard.

## COTONEASTER. The cotoneaster.

(*Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char.—*Flowers* polygamous. *Calyx* turbinate, bluntly 5-toothed. *Petals* short, erect. *Stamens* length of the teeth of the calyx. *Styles* glabrous. *Carpels* 2—3, parietel, biovulate, enclosed in the calyx. *(Don's Mill.)*

*Derivation*—Named in allusion to the cottony nature of the fruit and young branches of the most common species.

Spineless shrubs, with whitish flowers and black or red fruit; natives of Europe, Asia, and America; and very ornamental in British gardens, during spring and the beginning of summer, and in autumn.

### 133. Cotoneaster vulgaris.

The common Cotoneaster.

Spec. Char.—Leaves ovate, rounded at the base. Peduncles and calyxes glabrous. *(Dec. Prod.)*

Hab.—A deciduous shrub. Europe.

Local.—Hort. Gard.

Descript.—Height 2—5 ft. Cultivated in 1656. Flowers white, slightly tinged with pink; April and May. Fruit red or black; ripe in July and Aug.

Obs.—There are several varieties of this species, differing in the colour of their fruit. It is a very pretty and desirable small shrub for gardens and pleasure grounds.

Var. 1. *C. v. melanocarpa*, has the fruit black when ripe. Local. —Border of the Lower Lawn.

### 134. Cotoneaster frigida.

The frigid Cotoneaster.

Spec. Char.—Branchlets woolly. Leaves elliptical, mucronate, coriaceous, crenulated, glabrous, woolly be-

neath when young. Corymbs paniculate, terminal, white, and woolly. Pomes spherical. *(Dec. Prod.)*

Hab.—A sub-evergreen shrub or low tree. Nepal.

Local.—Upper Lawn, and border of the Lower, western end.

Descript.—Height 10—20 ft. Introd. 1824. Flowers of a snowy white, produced in great abundance; April and May. Fruit crimson, or bright red; ripe in Sept.

Obs.—As the fruit, with the greater part of the leaves, remains on all the winter, it makes a splendid appearance in that season, and also very beautiful when in flower in the spring.

### 135. Cotoneaster (f.) affinis.

The related (to C. frigida) Cotoneaster.

Spec. Char.—Leaves ovate, with a small mucro at the tip, and tapered at the base. Peduncles and calyxes woolly. *(Dec. Prod.)*

Hab.—A sub-evergreen shrub or low tree. Nepal.

Local.—Eastern side of the Lower Lawn; Lower Dell, and upper boundary.

Descript.—Height 10—20 ft. Introd. 1828. Flowers white; April and May. Fruit bright red, or deep crimson; ripe in Sept., and remaining on the trees great part of the winter.

Obs.—This is an equally splendid plant with the preceding sort, and well adapted for a lawn or conspicuous situation in pleasure grounds, where it is very showy and attractive, and stands out in bold relief from the adjacent scenery.

### 136. Cotoneaster acuminata.

The acuminated-*leaved* Cotoneaster.

Spec. Char.—Leaves ovate, acuminated, rather pilose on both surfaces. Peduncles glabrous.

Hab.—A sub-evergreen shrub or low tree. Nepal.

Local.—

Descript.—Height 10—15 ft. Introd. 1820. Flowers white; April and May. Fruit scarlet; ripe in Sept., and remaining on the plants all the winter.

Obs.—A vigorous-growing, fastigiate, leathery-leaved shrub, or very handsome sub-evergreen low tree; very distinct, and a most desirable species.

### 137. Cotoneaster rotundifolia.

The round-leaved Cotoneaster.

Spec. Char.—Leaves roundish, pilose beneath, evergreen. Peduncles 1-flowered.

Hab.—An evergreen shrub. Nepal, on mountains.

Local.—

Descript.—Height 3—4 ft. Introd. 1825. Flowers white, with the backs of the petals often pinkish; April and May. Fruit bright scarlet; ripe in Aug., and remaining on all the winter.

Obs.—A most desirable shrub for a small garden, for clothing a naked wall, covering rockwork, or grafting standard high on C. acuminata, so as to form a pendent evergreen tree.

### 138. Cotoneaster (r.) microphylla.

The small-leaved Cotoneaster.

Spec. Char.—Leaves oblong, obtuse, pubescent beneath, evergreen. Peduncles usually 1-flowered. *(Don's Mill.)*

Hab.—A prostrate evergreen shrub. Nepal.

Local.—City entrance, and rock work near the statue Jupiter. Frequent.

Descript.—Height 2—3 ft. Introd. 1824. Flowers white; May and June. Berries bright scarlet; ripe in Aug., and remaining on all the winter.

Obs.—This beautiful little plant is much cultivated, being very hardy and well adapted for rock-work or training against a wall, which it will cover nearly as rapidly as ivy. Grafted standard high on the thorn, or any of its congeners, it forms a singular and beautiful evergreen drooping tree.

## AMELANCHIER. The Amelanchier.

*(Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char.—*Calyx* 5-cleft. *Petals* lanceolate. *Stamens* shorter than the calyx. *Ovarium* of 10-cells, or of 5 bipartite ones. *Ovula* 10, solitary. *Styles* 5, joined at the base. *Pome* 3—5 celled. *Seeds* 3—5; endocarp cartilaginous. *(Don's Mill.)*

*Derivation.*—According to Clusius, *Amelanchier* is the old Savoy name of the plant.

Showy trees, cultivated for their profusion of white flowers, which are produced early in the season.

### 139. Amelanchier vulgaris.

The common Amelanchier.

Spec. Char.—Leaves roundish-oval, bluntish, downy beneath, afterwards glabrous. Fruit dark blue. *(Dec. Prod.)*

Hab.—A deciduous low tree. S. Europe.

Local.—

Descript.—Height 15—20 ft. Introd. 1596. Flow-

ers white; March and April. Fruit black, soft and eatable; ripe in July. Decaying leaves bright yellow.

Obs.—A very ornamental tree, from the profusion of its flowers early in the season, which cover it like a sheet of snow.

### 140. Amelanchier (v.) sanguinea.
### The blood-coloured-fruited Amelanchier.

Spec. Char.—Leaves oval, obtuse at both ends, mucronate, finely serrated, somewhat heart-shaped at the base. Flowers few in a raceme. Calyx glabrous. Petals linear, obtuse. *(Dec. Prod.)*

Hab.—A deciduous tree or large shrub. Hudson's Bay.

Local.—Small dell at the commencement of the Subscription Walk.

Descript.—Height 10—20 ft. Introd. 1824. Flowers white; April. Fruit dark purple; ripe in July. Decaying leaves rich yellow.

Obs.—A beautiful tree, with a somewhat fastigiate head. The fruit is edible, as are all the species.

### 141. Amelanchier (v.) florida.
### The flowery Amelanchier.

Spec. Char.—Leaves oblong, obtuse at both ends, coarsely serrate in the terminal portion, glabrous. Bracteas and stipules feathery at the tip, deciduous. Flowers crowded, in upright racemes. (*Lindl.*)

Hab.—A deciduous shrub or low tree. N. America.

Local.—Eastern end of the Lower Lawn.

DESCRIPT.—Height 10—20 ft. Introd. 1826. Flowers white; May. Fruit purple; ripe in Aug. Decaying leaves rich yellow.

OBS.—A handsome hardy shrub or low tree, resembling A (v.) Botryapium, but distinguished from it by its fastigiate habit of growth, and by the shortness of its stamens. The leaves somewhat resemble those of the hornbeam.

## MESPILUS. THE MEDLAR.

(*Lin. Syst.* Icosandria Di-Pentagynia.)

GEN. CHAR.—*Calyx* 5-cleft, segments foliaceous. *Petals* nearly orbicular. *Disk* large, full of honey. *Styles* 2—5, glabrous. *Pome* turbinate, open; 5-celled. *Endocarp* bony. (*Don's Mill.*)

*Derivation.*—From *mesos*, a half, and *pilos*, a bullet; fruit resembling half a bullet or round ball.

Crooked-branched trees, with large white flowers.

### 142. MESPILUS GERMANICA.

The German, *or common*, Medlar.

SPEC. CHAR.—Leaves lanceolate, tomentose beneath, undivided. Flowers solitary. (*Dec. Prod.*)

HAB.—A deciduous edible fruit tree. Britain in woods and hedges.

LOCAL.—Eastern side of the Lower Lawn, and Hort. Gard.

DESCRIPT.—Height 12 ft. Cultivated in 1596. Flowers white; May and June. Fruit brown; ripe in Oct. and Nov. Decaying leaves dark brown or yellow.

OBS.—There are several varieties of this species in cultivation for its fruit, which is not good to eat till it is in a state of incipient decay.

Its crooked and contorted branches, spreading low head, with its beautiful bloom, and subsequently singular looking fruit, render it altogether a very ornamental and remarkable tree.

### 143. Mespilus Smithii.
### Smith's Medlar.

Spec. Char.—Leaves oblong, elliptic, serrated, pubescent on the nerves beneath. Flowers usually solitary. (*Don's Mill.*)

Hab.—A deciduous tree, with rambling irregular branches. Native country unknown.

Local.—Lower Lawn, western side of the centre gate; Upper Dell, and Hort. Gard.

Descript.—Height 15—20 ft. Cultivated in 1800. Flowers white; May and June. Fruit reddish brown; ripe in Oct.

Obs.—Called also Mespilus grandiflora. The general aspect and habit of this tree are those of a Cratægus, and by many persons is taken for it. It is very hardy and well deserving a place in every collection or ornamental plantation, for the beauty of its flowers, which are produced in great profusion.

## i. *Malus*.
## PYRUS. The Pear Tree.
### (*Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char.—*Calyx* with an urceolate tube, and a 5-lobed limb. *Petals* roundish. *Styles* usually 5, rarely 2 or 3. *Pome* closed, 5-celled. *Putamen* cartilaginous. *Seeds* 2 in each cell. *Testa* cartilaginous. (*Don's Mill.*)

*Derivation.*—From the Celtic *peren*, the Anglo-Saxons made *pere*, the English, *pear*, the French, *poire*, and the Latins, *pyrus*, or for the fruit, *pyrum*.

Low trees, and some shrubs; almost all deciduous; and natives of, or cultivated in, Europe, Asia, and N. America. Some of them are in great estimation throughout the world for their fruit; and others are cultivated chiefly for their flowers. But all are particularly well adapted, from their small size, picturesque shapes, their not growing out of bounds, their great durability, and their showy flowers, for small gardens.

### 144. Pyrus Malus.

The *common, or wild,* Apple Tree.

Spec. Char.—Leaves ovate, acute, crenated, woolly on the under surface. Flowers in corymbs. Tube of calyx woolly. Styles glabrous. (*Dec. Prod.*)

Hab.—A deciduous tree. Britain in woods and hedges.

Local.—Hort. Garden.

Descript.—Height 20—30 ft. Flowers white, tinged with pink; May. Fruit red and yellow; ripe in Oct. Decaying leaves brownish.

Obs.—Cultivated in gardens and orchards as a fruit tree from time immemorial, and the parent of innumerable varieties which are too well known to need description, as being the most popular and useful of British fruits. The tree attains a great age, is in general very prolific, and the timber is valuable for the turner, millwright, and cabinet maker. It is very ornamental when in flower.

### 145. Pyrus (M.) baccata.

The Siberian Crab.

Spec. Char.—Disks of leaves ovate, acute, equally serrated, glabrous, the length of the petiole. Flowers grouped. Sepals deciduous. (*Dec. Prod.*)

Hab.—A deciduous tree. Siberia.

Local.—

Descript.—Height 10—15 ft. Introd. 1784. Flowers pink; May. Fruit small, like berries, red; ripe in Sept. Decaying leaves brownish.

Obs.—A very beautiful plant both in flower and fruit, particularly its sub-variety, the Cherry Crab, or Cherry Apple. The latter is a spreading tree, with drooping branches; and the fruit is numerous, and about the size and colour of a large cherry which it much resembles, covered with a fine glaucous bloom.

### 146. Pyrus spectabilis.

### The Chinese Crab Tree.

Spec. Char.—Leaves oval-oblong, serrated, smooth. Flowers in sessile umbels. Tube of calyx smooth. Petals ovate, clawed. Styles woolly at the base. *(Dec. Prod.)*

Hab.—A deciduous tree. China.

Local.—Dell facing Brock Street, Lower Lawn, and Hort. Gard.

Descript.—Height 20—30 ft., with thickly crowded upright branches, which at length become spreading. Introd. 1780. Flowers pink, large, and showy; April and May. Fruit small, greenish yellow, tinged with red.

Obs.—This is by far the most showy species of the genus. The flowers are semi-double, and of a pale rose-colour; but before they are expanded, the flower buds, which are large, appear of a deep red, and in this state are extremely beautiful. A most desirable tree for a pleasure ground or park where ornament is an object.

### ii. *Aria.*

### 147. Pyrus Aria.

### The White Beam Tree.

Spec. Char.—Leaves ovate, doubly serrated, tomentose beneath, with appressed white tomentum. Corymbs flat. (*Dec. Prod.*)

Hab.—A deciduous tree. Britain, in mountainous woods, on a calcareous soil.

Local.—Western side of the Lower Lawn; Lower Dell, and Hort. Garden.

(A fine specimen may be seen by the side of Lansdown road near the Wesleyan College, which was a favorite tree of the late W. Beckford, Esq.)

Descript.—Height 10—20 ft., stiff, erect and formal in its shape. The branches are very white and downy. Flowers white, in corymbs, with downy stalks; May and June. Fruit scarlet, mealy, acid and astringent. Decaying leaves yellow.

Obs.—A very ornamental tree when in fruit. The wood is very hard, and is much used in the manufacture of handles to knives and forks, wooden spoons, &c. It was formerly much used as cogs for wheels till cast iron was substituted. Fermented, the fruit affords a beer; or, by distillation, a powerful spirit. It is greedily eaten by small birds and many wild animals, squirrels, deer, hedgehog, &c. From the erect habit of the tree and regular head, it is well adapted for sheltering houses and gardens in exposed situations.

### 148. Pyrus (A.) intermedia.

### The intermediate White Beam Tree.

Spec. Char.—Leaves ovate, incisely lobed, tomentose beneath, with white appressed tomentum. Corymbs flat. (*Dec. Prod.*)

Hab.—A deciduous tree. Sweden, and also in Wales and Scotland.

Local.—

Descript.—Height 15—20 ft. Flowers and fruit as in P. Aria.

Obs.—Most probably but a variety of Pyrus Aria, from its general resemblance.

Var. 1. *P. a. i. latifolia.* Leaves broadly ovate. Local.—In the hedge, South side of the Hort. Gard.

Var. 2. *P. a. i. angustifolia, or P. edulis.* Leaves oblong, obtuse at the apex and wedge shaped at the base. Local.—Hort. Garden, next to the P. Aria, railing side of the walk facing the entrance.

### 149. Pyrus vestita.

### The clothed White Beam Tree.

Spec. Char.—Leaves, cymes, and young branches, clothed with white tomentum. Leaves elliptic, or obovate-elliptic, acuminated, serrated towards the apex. Corymbs branched and terminal. (*Don's Mill.*)

Hab.—A deciduous tree of the middle size. Nepal.

Local.—

Descript.—Height 20—30 ft. Introd. 1820. Flowers white; May and June. Fruit greenish brown; ripe in Oct. Decaying leaves of a beautiful straw-coloured yellow or brown.

Obs.—This tree is remarkable for the rapidity of its growth, its long broad leaves, and their woolly whiteness; and also for being one of the very latest trees in coming into leaf. The leaves are conspicuous in the spring for their whiteness underneath, and in autumn for their fine yellow colour.

## iii. *Torminaria.*

### 150. Pyrus torminalis.

### The griping-*fruited* Service Tree.

Spec. Char.—Leaves cordate-ovate, cut-lobed, serrated. Lower lobes divaricating. Flowers corymbose.

HAB.—A deciduous tree. Britain, in woods.

LOCAL.—

DESCRIPT.—Height 40—50 ft. Flowers white; May and June. Fruit red; ripe in Nov. Decaying leaves yellowish brown. Naked young wood purplish, marked with white spots.

OBS.—The fruit in a state of incipient decay, eats somewhat like that of the medlar. As an ornamental tree, its large green buds strongly recommend it in the winter time, as its fine large lobed-leaves do in the summer, and its large and numerous clusters of rich brown fruit do in autumn. From its general beauty it deserves a place in every collection.

### iv. *Sorbus.*

### 151. PYRUS PINNATIFIDA.

### The pinnatifid-*leaved* Service Tree.

SPEC. CHAR.—Leaves pinnately cloven, or cut, or almost pinnate at the base. The petiole on the under side, and the peduncles, hoarily tomentose. Pome globose, scarlet. (*Dec. Prod.*)

HAB.—A deciduous tree. Britain, on mountainous woody places.

LOCAL.—Between the Upper and Lower Dell, and Hort. Gard.

DESCRIPT.—Height 20—30 ft. Flowers white; May and June. Fruit red; ripe in Sept.

OBS.—A very ornamental tree from its compact growth, pinnate leaves, and coral-like fruit, which renders it very showy in the autumn. It is considered by De Candolle, to be a hybrid between P. *intermedia* and P. *aucuparia*.

### 152. Pyrus aucuparia.
### The Mountain Ash.

Spec. Char.—Buds softly tomentose. Leaflets serrated; slightly glabrous. Pomes globose. (*Dec. Prod.*)

Hab.—A low tree. Britain.

Local.—Lower Dell, by the pathway.

Descript.—Height 20—30 ft. Flowers white; May. Fruit red; ripe in Sept.

Obs.—Many superstitious qualities are attributed by the Scotch to this tree, being considered famous as a protection against charms and witchcraft. As an ornamental tree, it is well adapted for small gardens and in any situation where the harbouring of singing-birds is an object. It has one great advantage, that it never requires pruning, and never grows out of shape; and also that grass and other plants grow well under its shade.

### 153. Pyrus Sorbus.
### The True Service.

Spec. Char.—Buds glabrous, glutinous, acuminate. Leaflets serrated, villose beneath, but becoming naked when old. Pome obovate, pear-shaped. (*Dec. Prod.*)

Hab.—A tree of the middle size. Britain, in mountainous woods.

Local.—

Descript.—Height 30—60 ft. Flowers white; May. Fruit brown; Oct. Decaying leaves yellowish brown. Naked young wood grey, like that of the common mountain ash.

Obs.—This tree in general appearance resembles the mountain ash. It is of very slow growth and is recommended as one of ornament and variety. The wood is the hardest and heaviest of all the indigenous

woods of Europe, and for that reason is sought after by millwrights and turners. It has been for centuries more or less cultivated for its fruit, which is eaten when in a state of incipient decay, like the medlar.

### 154. Pyrus spuria.

### The spurious Service Tree.

Spec. Char.—Leaflets ovate, crenate; 3 pairs, with an odd one; hairy beneath. Petiole gland-bearing upon the upper side. Styles 5. (*Dec. Prod.*)

Hab.—A small tree.

Local.—Centre bed in the Lower Lawn.

Descript.—Height 10—20 ft. Cultivated in 1800. Flowers white; May. Fruit small, black; ripe in Sept. Decaying leaves dark purplish red. Naked young wood purplish.

Obs.—A low tree, with rambling, slender, dark-coloured shoots, and fruit resembling that of P. arbutifolia. It is thought to be intermediate, and perhaps a hybrid, between P. aucuparia and P. arbutifolia.

### v. *Adenorachis.*

### 155. Pyrus arbutifolia.

### The Arbutus-leaved Aronia.

Spec. Char.—Leaves obovate, lanceolate, acute, crenate, tomentose beneath, the midrib in each glandulous above. Calyx tomentose. Pome dark red or purple. (*Dec. Prod.*)

Hab.—A deciduous shrub. N. America, in swamps.

Local.—Upper boundary near the railing.

Descript.—Height 4—6 ft. Introd. 1700. Flowers

white; May. Fruit dark red or black; ripe in Sept. Decaying leaves intensely dark red, or purplish black.

Obs.—A very ornamental and most desirable shrub, frequent in collections. It is sometimes named Mespilus arbutifolia.

### 156. Pyrus (a.) grandifolia.
### The large-leaved Aronia.

Spec. Char.—Stem erect. Leaves oblong or obovate, acute, glabrous. Corymbs few-flowered, coarctate.

Hab.—A bushy shrub.

Local.—Lawn, near the Obelisk.

Descript.—Height 4—5 ft. Cultivated in 1810. Flowers white; May and June. Fruit dark purple; ripe in Sept. Decaying leaves purple and yellow.

Obs.—A very ornamental plant from its profusion of flowers in the spring; dark purple fruit, and the crimson, purple, and yellow tinge of its leaves in the autumn. It is of garden origin, and probably a hybrid between P. arbutifolia and P. chamæmespilus.

### vi. *Chamæmespilus.*
### 157. Pyrus Chamæmespilus.
### The dwarf Medlar.

Spec. Char.—Leaves ovate, serrated, glabrous; except bearing on the under surface, when young, down, which is deciduous. (*Dec. Prod.*)

Hab.—A stiff-branched shrub. Europe.

Local.—

Descript.—Height 5—6 ft. Introd. 1683. Flowers white, tinted with rose; May and June. Fruit round, orange-coloured, or red; ripe in Sept.

Obs.—It forms a compact bush, and flowers and fruits in the greatest abundance. A very desirable shrub.

## The CYDONIA. Quince Tree.

*(Lin. Syst.* Icosandria Di-Pentagynia.)

Gen. Char.—*Calyx* 5-cleft. *Petals* orbicular. *Stamens* erect. *Styles* 5. *Pome* closed, 5-celled; cells cartilaginous, many-seeded. *Seeds* covered with mucilaginous pulp. *(Don's Mill.)*

*Derivation.*—From its native place, *Cydon*, in Candia.

Low deciduous shrubs, natives of Europe and Asia, with red or white flowers tinged with pink in May and June, and fruit which in some of the species is large and showy.

### 158. Cydonia sinensis.

### The China Quince Tree.

Spec. Char.—Leaves ovate, acuminated at both ends, acutely serrated, stipules oblong linear, serrated; the teeth glanded. (*Dec. Prod.*)

Hab.—A low deciduous tree. China.

Local.—Hort. Gard.

Descript.—Height 10—20 ft. Introd. 1818. Flowers white or pale red; May and June. Fruit egg-shaped, greenish, hard, and nearly dry; ripe in Oct.

Obs.—A very handsome low tree, differing from the common quince by the shining appearance of its leaves, and the regular serratures of their margins.

### 159. Cydonia japonica.

### The Japan Quince Tree.

Spec. Char.—Leaves oval, somewhat cuneated, crenately serrated, glabrous. Stipules kidney-shaped, and serrated. *(Dec. Prod.)*

Hab.—A rambling low bush. Japan and China.

Local.—Border of the Lower Lawn.

Descript.—Height 5—6 ft. Introd. 1815. Flowers scarlet, mostly 2—3 together. Fruit green, very fragrant, but not edible; ripe in Oct.

Obs.—This is one of the most beautiful shrubs in cultivation; remarkable for the brilliancy of its blossoms, which vary from the richest scarlet to the most delicate blush colour. It is hardy, and well adapted for the open lawn; trained against a wall, or treated as an ornamental hedge plant.

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## Order XXI. CALYCANTHACEÆ.

### The Carolina Allspice Tribe.

Char.—*Calyx* coloured, many parted. *Segments* in many series, unequal. *Corolla* none. *Stamens* indefinite, in several series. *Anthers* aduate, extrorse. *Styles* exserted. *Carpels* 1-seeded, enclosed within the fleshy tube of the calyx. *Albumen* none. *(G. Don.)*

Low deciduous shrubs, natives of America and China, with aromatic bark and chocolate-coloured flowers; some species of which are eminently fragrant and valuable during the winter season. Their properties are carminative and aromatic.

### CALYCANTHUS. The Calycanthus *or* Allspice.

*(Lin. Syst.* Icosandria Polygynia.*)*

Gen. Char.—*Lobes* of calyx disposed in many series, imbricate, lanceolate, all somewhat coriaceous and coloured. *Stamens* unequal, deciduous, 12 outer ones fertile. *Achenia* numerous. *(Don's Mill.)*

*Derivation.*—From *kalux*, a calyx, and *anthos*, a flower; the calyx is coloured and resembles a corolla, which is not present in the genus. The name allspice was given to it by the inhabitants of Carolina, from the strong aromatic smel of the bark.

### 160. Calycanthus floridus.

The flowery Calycanthus, *or Carolina Allspice.*

Spec. Char. — Wood and root camphor scented. Branches spreading; branchlets tomentose. Leaves oval, tomentose beneath. Flowers mostly abortive. Fruit top-shaped. *(Dec. Prod.)*

Hab.—A dense orbiculate bush, Carolina, on the shaded banks of rivulets.

Local.—Centre bed, Lower Lawn.

Descript.—Height 6—8 ft. Introd. 1726. Flowers dusky purple, scented; May to Aug. Fruit brown, rarely seen in England. General aspect of the foliage in summer, dark brownish green. Decaying leaves bright yellow. Naked young wood dark brown.

Obs.—There are several varieties of this singularly beautiful shrub in cultivation, which however differ but little from each other. The flowers grow separately on short peduncles at the extremity of the branches; they have two series of narrow thick sepals, which spread open, and turn inward at the top, like those of the anemone or clematis.

## CHIMONANTHUS. The Chimonanthus *or* Winter Flower.

(*Lin. Syst.* Icosandria Polygynia.)

Gen. Char.—*Lobes* of calyx imbricate, oval, obtuse; outer ones in the form of bracteas; inner ones larger, and appearing like a corolla. *Stamens* nearly equal,

permanent, the five outer ones fertile, connate at the base. (*Don's Mill.*)

*Derivation.*—From *cheimon*, winter, and *anthos*, a flower; in allusion to the season of its flowering.

### 161. Chimonanthus fragrans.

The fragrant-*flowered* Chimonanthus.

Spec. Char.—Flowers protruded before the leaves, solitary in their old axils, extremely odorous, yellowish and purple within.

Hab.—A deciduous shrub. Japan.

Local.—

Descript.—Height 6—12 ft. Introd. 1776. Flowers yellowish and purple within; Dec. to March. Fruit flask-shaped. Decaying leaves greenish. Naked young wood light grey.

Obs.—No pleasure ground or garden ought to be without this plant. It is cultivated for its flowers, a few of which are gathered daily and brought to the tables of the higher classes, being extremely odorous, to scent the breakfast room, or placed in the drawing room or boudoir, in the same manner as violets. They are delightfully and refreshingly fragrant, and scent the air to a considerable distance round the tree. For boquets in winter they are unrivalled.

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## Order XXII. TAMARICACEÆ.

### The Tamarisk Tribe.

Char.—*Calyx* 4—5-parted. *Petals* 4—5. *Stamens* 4—5 or 8—10, free or monadelphous. *Style* short. *Stigmas* 3. *Capsule* trigonal, 3-valved, 1-celled, many-seeded. *Placentas* 3 at base of cell, or along the middle of the valves. *Seeds* comose at apex. *Albumen* none. (*G. Don.*)

Slender growing shrubs, with small heath-like leaves and rod-like branches, usually growing by the sea-side. The species have an astringent, and slightly bitter and tonic bark.

## TAMARIX. The Tamarisk.

(*Lin. Syst.* Pentandria Trigynia.)

Gen. Char.—*Calyx* 4—5 parted. *Petals* 4—5. *Stamens* 4—5, alternating with the petals, almost free. *Ovarium* tapering to the apex. *Stigmas* 3, long, divaricate, glandular, and oblique at the apex. *Seeds* erect, tufted with hairs. (*Don's Mill.*)

*Derivation.*—According to some from the Hebrew word *tamaris*, cleansing, on account of their branches being used for brooms; or according to others from the plants growing on the banks of the River *Tamaras*, now Tambra, on the borders of the Pyrences.

### 162. Tamarix gallica.

The French Tamarisk.

Spec. Char.—Glabrous, glaucous. Leaves minute, clasping the stem or branch, adpressed, acute. Spikes of flowers lateral, panicled.

Hab.—A sub-evergreen shrub. S. coast of England.

Local.—Near the stone yard.

Descript.—Height 5—12 ft. Flowers pinkish; May to Oct.

Obs.—It is valuable as thriving on the sea shore, where few other shrubs will grow. Sheep feed greedily on the young branches, for the sake of its salt taste, and the stems of the larger ones are used as handles for whips. The whole plant is very bitter, and the young shoots were formerly employed as a tonic, and as a substitute for hops in brewing beer.

## Order XXIII. PHILADELPHACEÆ.

### The Syringa Tribe.

Char.—*Calyx* tube turbinate, limb 4—10 parted. *Petals* 4—10, æstivation convolutely imbricate. *Stamens* numerous. *Styles* distinct or combined. *Stigmas* numerous. *Capsule* half inferior, 10-celled, many-seeded. *Seeds* subulate, with a membranous aril. *Albumen* fleshy. (*Don's Mill.*)

Rambling shrubs with large showy white flowers, most of which have a scent resembling orange flowers.

### PHILADELPHUS. The Philadelphus *or* Mock Orange.

(*Lin. Syst.* Icosandria Monogynia.)

Gen. Char.—*Calyx* tube obovate, turbinate; limb 4—5 parted. *Petals* 4—5. *Stamens* 20—40. *Styles* 4—5 connected or distinct. *Stigmas* 4—5 generally distinct. *Capsule* 4—5 celled, many-seeded. *Seeds* scobiform. (*Don's Mill.*)

*Derivation.*—Philadelphus is a name used by Athenæus for a tree which is now unknown. Bauhin applied it to this genus.

#### 163. Philadelphus coronarius.

The garland *Mock Orange.*

Spec. Char.—Leaves ovate, acuminate, serrately denticulate, 3-nerved; inflorescence racemose. Flowers sweet-scented. Lobes of the calyx acuminate. Styles distinct.

Hab.—A dense fastigiate bush. South of Europe.

Local.—Upper Lawn. Frequent in the Park.

DESCRIPT.—Height 10—12 ft. Introd. 1596. Flowers white, sweet scented; May and June. Fruit brown; ripe in Sept. Decaying leaves yellowish green.

OBS.—This is one of the oldest shrubs in cultivation, and from its growing in almost any situation, whether open or shady, is universal in gardens. The flowers smell like those of the orange, and the leaves taste like the fruit of the cucumber.

VAR. 1. *P. c. variegatus*, has the leaves variegated with white or yellow. LOCAL.—Dell, back of Brock Street.

### 164. PHILADELPHUS LATIFOLIUS.

The broad-leaved Philadelphus.

SPEC. CHAR.—Bark whitish. Leaves broad-ovate, acuminate, toothed, nerved with about 5 nerves, and pubescent, with hairs beneath. Flowers in racemes. Lobes of the calyx acuminate. Style 4-cleft at the very tip. (*Dec. Prod.*)

HAB.—A large rambling shrub, but still somewhat fastigiate, and crowded with branches. N. America, or probably a garden production.

LOCAL.—Near the Brock Street entrance.

DESCRIPT.—Height 10 ft. Cultivated 1815, or before. Flowers white; May and June. Fruit brown, ripe in Sept.

OBS.—This plant is frequently mistaken for the P. grandiflorus. But it is distinguished by its bark being whitish; the stems stiff and straight; and by its leaves, especially those of the younger branches, being more broadly ovate; and by the hairs they bear not being based by warts. It is a splendid shrub when in flower.

## DEUTZIA. THE DEUTZIA.

(*Lin. Syst.* Decandria Trigynia.)

GEN. CHAR.—*Calyx* tube campanulate, tomentose; limbs 5—6-cleft. *Petals* 5—6 oblong. *Stamens* 10.

*Filaments* tricuspidate. *Styles* 3—4, longer than the corolla. *Stigma* simple, club-shaped. *Capsule* 3—4-valved, and celled. *Seeds* several in each cell. (*Don's Mill.*)

*Derivation.*—Named in honour of *John Deutz*, a Dutch naturalist.

### 165. Deutzia scabra.
### The Scabrous Deutzia.

Spec Char.—Leaves ovate, acute, serrated, scabrous. Racemes terminal, tomentose, scabrous.

Hab.—A sarmentose, showy, free-flowering shrub. Japan.

Local.—Upper Lawn and upper boundary.

Descript.—Height 4—6 ft. Introd. 1822. Flowers white; May and June. Fruit brown; ripe in Sept. Decaying leaves yellowish brown. Naked young wood purplish brown.

Obs.—A very pretty shrub of moderate growth. It is most beautiful in May, when covered with its flowers of the purest white, which resemble those of Philadelphus.

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## Order XXIV. GROSSULACEÆ.
### The Currant Tribe.

Char.—*Calyx* 4—5 parted. *Petals* 5. *Stamens* 4—5. *Anthers* introrse. *Ovarium* 1-celled, with two opposite parietal placenta. *Style* 2—3 or 4 cleft. *Fruit* succulent, crowned by the persistent calyx, many-seeded. *Seeds* arillate. *Albumen* horny. *(G. Don.)*

Low deciduous, unarmed or spiny shrubs; natives of Europe, Asia, and N. America. Some of them produce

fruit which are in great esteem throughout the colder parts of Europe, for the kitchen and the dessert. A few of the species have red or pink flowers of very great beauty and are highly ornamental.

## RIBES. The Ribes.

(*Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—The same as that of the Order.

*Derivation.*—The word *Ribes* is from the name of an acid plant mentioned by the Arabian physicians, which has been discovered to be the Rheum *Ribes*; Grossulaceæ is from the Latin *grossularia*, a little unripe fig.

### 166. Ribes speciosum.

The showy-*flowered* Gooseberry.

Spec. Char.—Shrub prickly. Prickles infra-axillary, triple. Branches hispid. Peduncles longer than the leaves, and bearing 1—3 red flowers. Calyx cylindrical, 4-parted. Petals equal to the calyx. Stamens 4, twice as long as the calyx. (*Dec. Prod.*)

Hab.—A very prickly branched shrub, with a brownish red aspect. America and California.

Local.—Western end of the border, Lower Lawn.

Descript.—Height 3—6 ft. Introd. 1829. Leaves wedge-shaped at the base, rounded at the end, indistinctly 3-lobed, incisely crenate, glabrous and nerved. Flowers deep red. May and June. Fruit red.

Obs.—A most desirable and highly ornamental shrub. Its shining leaves, and large, pendulous, crimson glittering blossoms, give it a general resemblance to the fuchsia, and on that account it is much admired.

### 167. Ribes sanguineum.

The *red-flowered* Currant.

Spec. Char.—Leaves cordate, somewhat 5-lobed, serrated, veiny, smoothish above, villous beneath. Racemes drooping, pubescent. Bracteas obovate-spathulate. Berries turbinate, hairy. (*Don's Mill.*)

Hab.—A large branchy smooth shrub. N. W. coast of America.

Local.—Upper Lawn.

Descript.—Height 4—8 ft. Introd. 1826. Flowers deep rose; March and April. Fruit purplish, with a glaucous bloom; ripe in Aug.

Obs.—This is one of the most ornamental species of the genus. It flowers profusely and is of vigorous growth in almost any situation. From its blooming early in the season, it forms the most splendid bush to be seen in British shrubberies, from the middle or end of March to the beginning or middle of May.

Var. 1. *R. s. flore pleno.* The double-flowered crimson variety. Local.—Upper Lawn.

Var. 2. *R. s. flore albo.* The White-flowered variety. Local. Border of the Lower Lawn.

### 168. Ribes aureum.

The golden-*flowered* Currant.

Spec. Char.—Quite glabrous. Leaves 3-lobed; lobes divaricate, with a few teeth. Bracteas linear, length of the pedicels. Berries glabrous. Flowers golden yellow. (*Don's Mill.*)

Hab.—An upright branchy shrub, resembling a Cratægus before flowering. N. W. America.

Local.—Upper Lawn. Frequent.

DESCRIPT.—Height 6—8 ft. Introd. 1812. Flowers yellow occasionally tinged with crimson; April and May. Fruit yellow, seldom black, and of an exquisite flavour, ripe in Aug.

OBS.—A very ornamental plant, with fine, large, bright yellow flowers, which are produced in abundance; and together with its smooth, glossy, yellowish green leaves make it attractive early in the spring.

VAR. 1. *R. a. tenuiflorum.* The slender-flowered Currant. LOCAL. —Opposite the pond, in the border by the lower walk.

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## ORDER XXV. ESCALLONIACEÆ.

### THE ESCALLONIA TRIBE.

CHAR.—*Calyx* 5-toothed. *Petals* 5, forming a tube. *Stamens* definite. *Disk* epigynous. *Ovarium* 2-celled. *Stigma* 2-lobed. *Capsule* crowned by the calyx and style. *Seeds* numerous, minute. *Albumen* oily. (*G. Don.*)

Shrubs, natives of N. and S. America.

### ESCALLONIA. THE ESCALLONIA.

(*Lin. Syst.* Pentandria Monogynia.)

GEN. CHAR.—*Calyx* tube semi-globose, adnate to the ovarium; limb 5-toothed or 5-lobed. *Petals* 5, arising from the calyx. *Stamens* 5; anthers ovate-oblong. *Stigma* peltate. *Style* filiform, permanent. *Capsule* baccate. *Seeds* numerous. (*Don's Mill.*)

*Derivation.*—From *Escallon*, the pupil and companion of Mutis, during his travels in New Spain.

Sub-evergreen shrubs, natives of South America, more especially of Chili.

### 169. Escallonia illinita.

The varnished Escallonia.

Spec. Char. — Leaves oblong-lanceolate, serrulate, clammy-varnished. Corymbs 3-flowered, racemose. Corolla cylindrical. Limb spreading. (*G. Don.*)

Hab.—An evergreen shrub. Chili.

Local.—Upper Lawn.

Descript.—Height 3—6 ft. Introd. 1833. Flowers white; Aug. and Sept.

Obs.—One of the hardiest species of the genus, and well deserving a place in collections. The whole plant emits a powerful odour, resembling the smell of swine, arising from the glandular dots seen on the surface of the leaves.

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## Order XXVI. ARALIACEÆ.

### The Aralia Tribe.

Char.—*Calyx* entire or toothed. *Petals* 5 or 10; æstivation valvate. *Stamens* 5—10. *Anthers* peltate. *Ovarium* of 2 or more cells; cells 1-seeded. *Styles* numerous, usually distinct. *Berry* crowned by the limb of the calyx. *Albumen* fleshy. (*G. Don.*)

Suffruticose and climbing shrubs; natives of Europe, Asia and N. America. The properties of the order are aromatic, stimulant, and tonic.

### ARALIA. The Aralia.

(*Lin Syst.* Pentandria Pentagynia.)

Gen. Char.—*Calyx* margin very short, entire or toothed. *Petals* 5, free, and expanded at the apex.

*Stamens* 5. *Styles* 5, expanded, spreading divaricately. *Berry* 5-celled, usually torose. *Pyrenæ* chartaceous. (*Don's Mill.*)

*Derevation.*—According to some, from *ara*, annoyance, the spines being very troublesome in its native country to travellers.

### 170. Aralia spinosa.

The spiny Aralia, *or Angelica Tree.*

Spec. Char.—Stem arboreous and prickly. Leaves doubly and trebly pinnate.

Hab.—An erect suffrutescent plant, with the habit of a tree. Carolina and Virginia, in low fertile, moist woods.

Local.—*

Descript.—Height 10—12 ft. Introd. 1688. Flowers greenish white; Aug. and Sept.

Obs.—A beautiful species, and, from its large, doubly and trebly pinnate leaves, it forms a singularly ornamental plant, with a spreading, umbrella-like head, when standing singly on a lawn. After the plant flowers, the stem commonly dies down to the ground, like that of the raspberry, and, like it, is succeeded by suckers. The stem however occasionally survives and becomes a fine tree. A specimen of the latter may be seen at Gen. Holmes's Villa, the Retreat, in Weston Lane.

## HEDERA. The Ivy.

(*Lin. Syst.* Pent-Decandria, and Pent-Decagynia.)

Gen. Char.—*Calyx* margin elevated or toothed. *Petals* 5—10, not cohering at the apex in the form of a calyptra. *Stamens* 5—10 *Styles* 5—10, conniving, or joined in one. *Berry* 5—10-celled. (*Don's Mill.*)

*Derivation.*—From the Celtic word *hedira* a cord. The English word Ivy is derived from the Celtic word, *iw*, green.

### 171. Hedera Helix.

The *common* Ivy.

Spec. Char.—Leaves some ovate, some lobed. Umbels erect.

Hab.—An evergreen climber and creeper. Britain in woods.

Local.—By the railing upper boundary, &c.

Descript.—Height 20—60 ft. Flowers greenish-yellow, or greenish; Oct. and Nov. Fruit black; ripe in April.

Obs.—Ivy is the badge of the Scottish Clan Gordon. In the language of flowers, Ivy is an emblem of Fidelity in Friendship. It is a valuable ornamental evergreen for covering naked buildings or trees, for training into fanciful shapes, as human figures, &c., on skeletons of wire work, or trained up a stake so as to form a standard. In close shrubberies or any where under trees and shrubs where green will not grow, ivy forms a clothing of perpetual verdure. Flowering so late in the season, it is much resorted to by bees and flies, when little other food is to be had. The berries increase during the winter, are full formed in February, and ripen in April; furnishing food for wild pigeons, blackbirds, thrushes, &c., in the spring. Blackbirds, and several other birds, build their nests in the stumps of ivy tufts. Sheep are fond of the leaves, especially during severe weather. The ancients held ivy in great esteem, and Bacchus is represented crowned with it to prevent intoxication. To walls and roofs of every kind it is not only a great protection and ornament, but it also keeps them dry.

Var. 1. *H. H. canariensis.* The Irish or Giant Ivy. Local.—Statue Jupiter.

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## Order XXVII. CORNACEÆ.

### The Dogwood Tribe.

Char.—*Calyx* 4-lobed. *Petals* 4; æstivation valvate. *Stamens* 4. *Style* filiform. *Stigma* simple. *Drupe* bac-

cate, enclosing a 2-celled nut. *Seeds* solitary in the cells. *Albumen* fleshy. (*G. Don.*)

Deciduous shrubs; natives of Europe, Asia, and N. America; with white flowers in June and July. Their properties are tonic and febrifugal, and some are astringent.

## CORNUS. The Dogwood.

(*Lin. Syst.* Tetrandria Monogynia.)

Gen. Char.—*Calyx* tube adhering to the ovarium; limb small, 4-toothed. *Petals* 4, oblong, sessile, valvate in æstivation. *Stamens* 4. *Style* 1. *Drupe* baccate, marked by the vestiges of the calyx, containing a 2-celled, rarely 3-celled nucleus. *Seeds* solitary, pendulous. (*Don's Mill.*)

*Derivation.*—From *cornu*, a horn; the wood being thought to be as hard and as durable as horn. Its value as a material for warlike instruments has been celebrated by Virgil—"Bono bello cornus."

### 172. Cornus sanguinea.

The blood-*red-leaved, or common,* Dogwood.

Spec. Char.—Branches straight, and of a dark red when full grown. Leaves green on both sides. Cymes naked, flat.

Hab.—A large shrub. Britain, in hedges and thickets.

Local.—*

Descript.—Height 4—15 ft. Flowers white; unpleasantly scented; June. Fruit dark purple, and very bitter; ripe in Aug. and Sept. Decaying leaves deep red. Naked young wood green.

Obs.—Very common in woods and old shrubberies. After a smothered combustion it makes the very best charcoal for gunpowder. It grows in the shade and drip of other trees, and is therefore valuable for thickening strips of plantations which have become naked below. The wood being hard, was formerly used for mill-cogs, and for various purposes in rustic carpentery; and it still makes excellent skewers for butchers, toothpicks, and similar articles.

### 173. Cornus alba.

### The white-*fruited* Dogwood.

Spec. Char.—Branches recurved. Branchlets glabrous. Leaves ovate, acute, pubescent, hoary beneath. Corymbs depressed. Branches of a fine red colour. Fruit white, or bluish white. (*Don's Mill.*)

Hab.—A large shrub. Siberia.

Local.—Upper Lawn. Frequent.

Descript.—Height 4—10 ft. Introd. 1741. Flowers white; May to July. Fruit white or bluish white; ripe in Sept. Decaying leaves red or reddish yellow. Naked young wood intensely red or coral colour.

Obs.—Interesting in summer, from its fine large leaves and white flowers; in autumn, from its white fruit, which is about the size and colour of those of the miseltoe; and in the winter and spring, from the fine red of its young shoots.

Var. 1. *C. a. sibirica.* Branches coral-coloured, with a fine bloom. It makes a splendid appearance in the winter season. Local.—

### 174. Cornus mas.

### The male Dogwood, *the Cornel, or Cornelian Cherry Tree.*

Spec. Char.—Branches smoothish. Leaves oval, acuminated, rather pubescent. Flowers yellow, protruded

before the leaves. Fruit elliptic, of a bright shining scarlet, very styptic in its immature state. (*Don's Mill.*)

Hab.—A large shrub, or low tree. Austria.

Local.—Border of the Lower Lawn, Eastern end.

Descript.—Height 12—20 ft. Introd. 1596. Flowers yellow; February to April. Fruit cornelian-coloured; ripe in Oct. and Nov. Decaying leaves reddish green. Naked young wood brownish green.

Obs.—A valuable ornamental tree, not only from its early flowering and showy fruit, but because it is a low tree, never growing out of bounds, and one which, after it has attained the height of 10 or 12 feet is of slow growth, and of very great duration. The fruit, which is coral-coloured, was formerly used in preserves, marmalades, robs, and liqueurs; and the wood has been in all ages celebrated for its hardness and durability. Spokes for ladders, hay and straw forks, hoops, skewers, &c., are made from it. Evelyn says, made into wedges, it will last like iron. In the gardens of some of the oldest convents, the cornel holds a conspicuous place as a fruit tree.

### 175. Cornus florida.

### The Florida Dogwood.

Spec. Char.—Involucre very large, white. Leaves ovate, acuminated, pale beneath.

Hab.—A large shrub or low tree. N. America.

Local.—

Descript.—Height 20—30 ft. Introd. 1731. Flowers greenish yellow; April and May. Fruit scarlet; ripe in Aug. Decaying leaves yellowish green. Naked young wood brownish green.

Obs.—This species is universally allowed to be the handsomest of the genus. The flowers are surrounded with a very large involucre, composed of 4 white floral leaves, sometimes inclining to violet. This fine involucre constitutes all the beauty of the flowers, which are very

numerous, and which, in their season, robe the tree in white, like a full blown apple tree, and render it one of the fairest ornaments of the American forests. It is said that the young branches of this species stripped of their bark and rubbed with their ends against the teeth, render them extremely white.

## 11. Monopetalæ *or* Gamopetalæ.

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### Order XXVIII. LORANTHACEÆ.
### The Mistletoe Tribe.

Char.—*Calyx* calyculate, entire or lobed. *Petals* 4—8, distinct or cohering; æstivation valvate. *Stamens* 4—8, opposite the petals, or more or less adnate to them. *Style* absent or present. *Stigma* capitate. *Berry* 1-celled, 1-seeded, crowned by the calyx. *Albumen* fleshy. *Flowers* generally unisexual. (*G. Don.*)

Evergreen shrubs with dichotomous or verticillate branches, natives of Europe and Asia. The most remarkable quality that Loranthaceæ possess, is the power of rooting in the wood of other plants, at whose expense they live, as in the Mistletoe. (Viscum *album.*) The general properties of the order are astringent.

### AUCUBA. The Aucuba.
(*Lin. Syst.* Dicœcia Tetrandria.

Gen. Char.—*Flowers* dicœcious. *Calyx* 4-toothed, obtuse, and very short. *Petals* 4, deciduous. *Stamens* 4. *Ovarium* cylindrical. *Style* very short, thick, terete. *Berry* fleshy, 1-seeded. (*Don's Mill.*)

*Derivation.—Aucuba* is the Japanese name of the plant.

### 176. Aucuba japonica.
### The Japan Aucuba.

Spec. Char.—Leaves ovate-lanceolate, acuminated, toothed, coriaceous, glabrous, shining, pale green ; beautifully spotted with yellow.

Hab.—An evergreen shrub. Japan.

Local.—Upper Lawn. Frequent.

Descript.—Height 6—10 ft. Introd. 1783. Flowers dark blood-coloured ; May and July. Berries red : ripe in March.

Obs.—This handsome shrub is well known in London as the "Gold Plant," from its large, yellow mottled foliage, and is remarkable for thriving in London areas; even in the most crowded parts of the city, it may be seen in full vigour in pots, apparently enduring coal smoke and confined situations better than almost any other evergreen. It is also now found hardier than the common laurel.

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## Order XXIX. CAPRIFOLIACEÆ.
## The Honeysuckle Tribe.

Char.—*Calyx* 5-lobed. *Corolla* monopetalous ; tube short ; limb 5-lobed ; æstivation valvate. *Stamens* 5, adnate to the corolla. *Ovarium* 3-celled. *Style* exserted. *Stigmas* 3. *Berry* pulpy, 1 or many celled. *Seeds* solitary, twin or numerous in the cells. *Albumen* fleshy. (*G. Don.*)

Twining, climbing, erect, or rambling shrubs, generally with showy flowers, some of them very fragrant ; natives of most parts of the world, but not of Australia.

Some of the plants of this order are astringent, others have emetic and purgative properties. Their general fragrance and beauty also, have been the theme of many a poet's song.

## SAMBUCUS. The Elder.

*(Lin. Syst.* Pentandria Trigynia.)

Gen. Char.—*Calyx* small, in 5 deep segments, permanent. *Corolla* rotate, urceolar, 5-lobed. *Stamens* 5. *Filaments* awl-shaped. *Anthers* roundish, and heart-shaped. *Style* none. *Stigmas* 3, obtuse. *Berry* globular, pulpy, of 1 cell, containing 3—5 seeds. (*Don's Mill.*)

*Derivation.*—From *sambuke*, which the Latins have changed to *sambuca*, a musical instrument, supposed to have been made of the wood of this tree, on account of its hardness. The tree was always famous for this quality; so that Pliny says, "it consists of nothing but skin and bones."

### 177. Sambucus nigra.

The *common, or* black-*fruited,* Elder.

Spec. Char.—Arboreous. Leaves pinnate. Leaflets usually 5, smooth, deep green, ovate or oblong-oval, acuminated; the lower leaves sometimes trifoliolate. Cymes with 5 main branches. Branches, after a year's growth, clothed with smooth grey bark, and filled with a light spongy pith. *(Don's Mill.)*

Hab.—A small tree. Britain, in woods and hedges.

Local.—In the hedge, by the Lower Dell.

Descript.—Height 15—30 ft. Flowers cream-coloured; with a sweet but faint smell; June. Berries globular, purplish black; ripe in Sept. Stalks reddish. Decaying leaves yellowish green. Naked young wood whitish green.

Obs.—The elder is cultivated in some parts of Kent for its fruit, which is much in demand for making elder wine, and it is said frequently to enter into the composition of a less innocent beverage, artificial or adulterated Port. The flowers and bark are much used

by herbalists, and the former also for making elder water. The wood of old trunks, being very hard, is used as a substitute for that of box and dogwood. The young shoots, having large pith, are made into pop-guns, and the pith is used by electricians in various experiments. It is sometimes used for forming hedges, but it is not a good fence; preferenee should be given either to holly or hawthorn.

Var. 1. *S. n. virescens.*—Fruit yellowish green. Local.—Border of the Lower Lawn.

Var. 2. *S. n. foliis argenteis;* has the leaves variegated with white, and forms a striking and lively-looking plant in a shrubbery. Local. —Border of the Lower Lawn.

### 178. Sambucus racemosa.

### The racemose-*flowered* Elder.

Spec. Char.—Shrubby. Leaves pinnate. Leaflets 5, membranous, oblong, acuminated, serrated, unequal at the base. Petioles glabrous. Panicle ovate. Leaves pale green, pretty smooth. *(Don's Mill.)*

Hab.—A low tree or large shrub. S. Europe and Siberia on mountains.

Local.—

Descript.—Height 10—12 ft. Introd. 1596. Flowers whitish green; April and May. Fruit scarlet; ripe in Aug.

Obs.—This tree has a splendid appearance when covered with its panicles of fine, large, scarlet fruit, which resemble miniature bunches of grapes of the most brilliant scarlet. Its large leaves, with their deeply serrated pinnæ, are also very ornamental. It grows as freely as the common elder, and deserves a place in every collection, though it is much neglected.

## VIBURNUM. The Viburnum.

(*Lin. Syst.* Pentandria Trigynia.)

Gen. Char.—*Calyx* limb small, permanent. *Corolla* rotate, somewhat campanulate, or tubular, with a 5-lobed

limb. *Stamens* 5, equal. *Stigmas* 3, sessile. *Berry* ovate, or globose, 1-seeded from abortion, crowned by the calycine teeth. *(Don's Mill.)*

*Derivation*—This name is derived according to Vaillant, from the Latin word *vieo*, to tie; on account of the pliability of the branches of some species.

Deciduous and evergreen shrubs, old inhabitants of British gardens; natives of Europe, N. America, and Asia.

### 179. Viburnum Tinus.
### The Laurustinus.

Spec. Char.—Leaves ovate-oblong, entire. Ramifications of the veins beneath and branchlets furnished with glandular hairs.

Hab.—A compact evergreen shrub. S. Europe.

Local.—Upper Lawn. Frequent.

Descript.—Height 8—10 ft. Introd. 1596. Flowers white, rose coloured before expansion; Dec. till March. Berries dark blue; ripe in June.

Obs.—One of the most ornamental of evergreen shrubs; the foliage shining and tufting in beautiful masses, and covered with a profusion of white flowers during the winter months. It is called Laurustinus from *laurus*, a laurel, and *tinus*, the Latin name of the plant; the word *laurus* being added by old authors, from the supposition that this shrub belonged to the same family as the Laurus nobilis, or sweet bay.

Var. 1. *V. T. hirta.* Leaves oval-oblong, hairy beneath and on the margins. Local.—Frequent.

### 180. Viburnum Lantana.
### The Wayfaring Tree.

Spec. Char.—Leaves cordate, serrated, veiny; under side covered with a mealy pubescence.

HAB.—A large shrub or low tree. Britain, in woods and hedges.

LOCAL.—Upper Dell.

DESCRIPT.—Height 10—15 ft. Flowers white; May and June. Fruit compressed in an early state, red on the outer side, yellow, and finally black; ripe in Aug. and Sept. Decaying leaves of a fine deep red.

OBS.—In Germany, the first year's shoots are employed in basket making, and for tying faggots and other packages; and those of 2 or 3 years old are used for tubes to tobacco-pipes. The wood is white and hard, and may be employed for various purposes in turning and cabinet making. In Switzerland, the fruit is used for making ink. The bark of the root is also used to make birdlime, but that of Holly is much better. The following beautiful lines on this tree are by W. Howitt, in his Book of the Seasons:—

"Wayfaring tree! what ancient claim
Hast thou to that right pleasant name?
Was it that some faint pilgrim came
Unhopedly to thee,
In the brown desert's weary way,
Mid toil and thirst's consuming sway,
And there as 'neath thy shade to lay,
Blest thee, wayfaring tree?

"Or is it that thou lov'st to show
Thy coronets of fragrant snow,
Like life's spontaneous joys that flow
In paths by thousands beat?
What'er it be, I love it well;
A name methinks, that surely fell
From poet, in some evening dell,
Wandering with fancies sweet."

It probably owes its name to the soiled and dusty appearance of its foliage, likened to a traveller or wayfaring person (occasioned by the mealiness of its leaves) together also with its being frequently found by the wayside.

### 181. Viburnum Opulus.

### The Guelder Rose.

Spec. Char.—Leaves broad, 3-lobed, acuminated, unequally serrated, veiny. Petioles beset with glands.

Hab.—A shrub or low tree. Britain, in moist hedges.

Local.—By the Upper Dell, and border of the Lower Lawn.

Descript.—Height 6—12 ft. Flowers white; May and June. Fruit elliptical, bright red. Decaying leaves beautiful pink or crimson. Naked young wood smooth, green.

Obs.—The Guelder rose, in a wild state, is not remarkable for the beauty of its flowers; but its bright red berries, which ripen in Sept., and which towards the middle of Oct., assume a beautiful pink, almost compensating for the inferiority of the species to the variety in point of flowers. The leaves of both die off a fine red on the first approach of frost.

Var. 1. *V. O. sterilis.* The Snow-ball tree, or Guelder rose, is one of the most ornamental shrubs, or low trees, that can be planted in a pleasure ground; and with lilac, laburnum, and scarlet thorn, it forms an elegant group. Local.—Frequent. Upper Lawn.

## WEIGELA. The Weigela.

### *(Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* pentagonal, adnate to the ovarium, 5-lobed; lobes lanceolate. *Corolla* funnel-shaped; throat wide; *lobes* ovate, roundish. *Stamens* adnate to the corolla. *Style* a little exserted. *Stigma* peltately capitate. *Ovarium* 2-celled, many seeded. *(G. Don.)*

*Derivation.*—Named after C. E. *Weigel*, author of "Observ. Botanicæ," 1772.

### 182. Weigela rosea.

The Rose-coloured-flowered Weigela.

Spec. Char.—Downy, leaves oblong-acuminate, sharply serrated, glabrous above. Flowers sessile, axillary and terminal. Corolla pubescent, with roundish segments. *(G. Don.)*

Hab.—A shrub. China.

Local.—Lawn facing the back of Brock Street, and Lower Lawn.

Descript.—Height 8 ft. Introd. 1844. Flowers rose-coloured; April and May.

Obs.—A new and one of the most beautiful and hardy shrubs from China, by Mr. Fortune, which have been introduced into this country for years. It is hardy, and an early flowerer; being covered in spring with its rose-coloured blossoms.

## LONICERA. The Honeysuckle.

*(Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* tube 5-toothed. *Corolla* tubular, campanulate, or funnel-shaped, with a 5-cleft, usually irregular, limb. *Stamens* 5. *Style* filiform. *Stigma* capitate. *Berries* 3-celled. *Seeds* crustaceous. *(Don's Mill.)*

*Derivation.*—Named after *Adam Lonicer*, a German, who was born in 1528, and died in 1556. There was another Lonicer, John, who wrote comments on Dioscorides.

Twining and erect shrubs; natives of Europe, Asia, and America; some of them greatly prized for the beauty and fragrance of their flowers.

### 183. Lonicera Periclymenum.

The Woodbine, *or common Honeysuckle.*

Spec. Char.—Leaves all separate, deciduous. Heads of flowers ovate, imbricated, terminal. Flowers ringent.

Hab.—A twining deciduous shrub, which always turns from east to west. Britain, in woods and hedges.

Local.—Upper and Lower Lawn.

Descript.—Stem 15—30 ft. Flowers rich yellow; June to Sept. Fruit deep red, bitter and nauseous; ripe in Sept.

Obs.—The Woodbine has been considered the emblem of true love, from its winding itself round every tree and shrub within its reach, and binding them together. The name of Honeysuckle has reference to the fondness of children for this plant, who amuse themselves with drawing the trumpet-shaped corollas from the calyx, to suck the honey from the nectary. It is a favorite plant in gardens and shrubberies, of which there are several varieties, all very beautiful and fragrant; and, either trained against a wall, twining round a pole and over a parasol top, or climbing and rambling among bushes, form great ornaments to gardens.

### 184. Lonicera tatarica.
### The Tartarian Honeysuckle.

Spec. Char.—Leaves cordate-ovate. Flowers rose-coloured, short, somewhat gibbous at the base. Bracteas 2, linear-setaceous. Peduncles 2-flowered.

Hab.—An upright shrub. Tartary.

Local.—Near hand-gate entrance, Upper boundary.

Descript.—Height 4—6 ft. Introd. 1752. Flowers rose-coloured; April and May. Berry bright red; ripe in Aug.

Obs.—This is one of the most hardy of European shrubs. In British gardens it is very common, and is valued for its early leafing and flowering. The wood, which, when deprived of its bark, is beautifully veined, is used for walking-sticks; and the plant being frequented by the Cantharis Vesicatoria, or Blistering Fly, that insect is collected from it for the apothecaries.

### 185. Lonicera Ledebourii.
### Ledebour's Honeysuckle.

Spec. Char.—Branches tetragonal. Leaves ovate or oblong, downy. Peduncles 2—3-flowered. Bracteas 4; 2 outer ones ovate; 2 inner broad obcordate. Corollas gibbous at the base.

Hab.—An erect deciduous shrub. California.

Local.—Centre Lawn near the City Entrance.

Descript.—Height 2—4 ft. Introd. 1838. Flowers yellow, tinged with red; June and July. Berries dark purple; ripe in Sept.

Obs.—A very beautiful and singularly looking plant. The leaves have a coriaceous and evergreen appearance.

## SYMPHORICARPOS. The St. Peter's Wort.
(*Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* tube globose; limb small, 4—5-toothed. *Corolla* funnel-shaped, almost equally 4—5-lobed. *Stamens* 5, hardly exserted. *Stigmas* semi-globose. *Ovarium* adnate. *Berry* 4-celled. *(Don's Mill.)*

*Derivation.*—From *sumphoreo*, to accumulate, and *karpos*, fruit; species bearing the fruit in groups.

### 186. Symphoricarpos vulgaris.
### The common St. Peter's Wort.

Spec. Char.—Flowers disposed in axillary capitate clusters. Branches brown, smooth. Leaves elliptic ovate, obtuse, glaucous, and pubescent beneath. (*Don's Mill.*)

Hab.—An erect bushy shrub, N. America.

Local.—Dell back of Brock St., and Upper boundary.

Descript.—Height 3—6 ft. Introd. 1730. Flowers small, red and yellow; Aug. and Sept. The berries are numerous, red or purple, size of hempseed, and ripen in winter.

Obs.—A useful plant for the shrubbery, from its numerous, close branches, and bushy growth.

Var. 1. *S. v. foliis variegatis.* The variegated-leaved St. Peter's Wort. Local.—In the border of the long walk, at the upper boundary. A beautiful variety, and one of the few variegated plants that always bear a healthy appearance.

### 187. Symphoricarpos racemosus.
### The Snowberry.

Spec. Char.—Flowers in terminal racemes. Corolla densely bearded inside. Style and stamens enclosed. Leaves glaucous beneath.

Hab.—A bushy shrub. N. America, on mountains.

Local.—By the Farm House. Frequent.

Descript.—Height 4—6 ft. Introd. 1817. Flowers rose-coloured; July to Sept. Fruit large, white; ripening in Oct., and remaining on great part of the winter.

Obs.—The fruit of this species is large, white, produced in great abundance, and very showy. The flowers are much sought after by bees, and its berries are excellent food for game; particularly pheasants, are said to be fond of it; and, as the plant is very hardy, of vigorous growth, and extends rapidly on every side by suckers, it is well adapted for growing in woods and parks.

## LEYCESTERIA. The Leycesteria.
(*Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* with an ovate tube, and 5-parted, irregular limb, ciliated with glands. *Corolla* funnel-

shaped; tube gibbous at the base, limb 5-parted and campanulate. *Stamens* 5. *Stigma* capitate. *Berry* roundish, 5-celled. (*G. Don.*)

*Derivation.*—Named by Dr. Wallich after his friend *William Leycester*, formerly chief judge of the principal native court under the Bengal Presidency, who had a great love of horticulture.

### 188. Leycesteria formosa.

The beautiful Leycesteria.

Spec. Char.—As in Gen. Char., there being but one species.

Hab.—A large, rambling, sub-evergreen shrub. Nepal, on mountains.

Local.—Near Brock St. entrance and Upper Lawn.

Descript.—Height 6—8 ft. Introd. 1824. Flowers white, with a tinge of purple; Aug. to Oct. Fruit purple; ripe in Oct.

Obs.—This is a most beautiful shrub when in a flowering state, from the contrast of the deep green hue of its stem and leaves, with the purple colour of its large bracteas and its berries. It is a rambling shrub, with the general appearance of a honeysuckle, and is said to be a useful plant for cover for pheasants, which are fond of its berries.

## Sub-Class III. COROLLIFLORÆ.

*Corolla monopetalous, with the Stamens inserted into it.*

### I. Hypostamineæ.

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### Order XXX. ERICACEÆ.

The Heath Tribe.

Char.—*Calyx* and *Corolla* each with 4—5 segments. *Stamens* 4—5—8—10, variously inserted. *Anthers* with

2 cells. *Ovary* with its cells, in most, agreeing in number with the segments of the calyx or corolla. *Style* and *Stigma* undivided. *Seeds* many. *Albumen* fleshy. *Embryo* erect, slender. (*Don's Mill.*)

Heaths, or heath-like plants, mostly evergreen, with beautiful flowers ; natives of Europe, Asia, and America. This order contains many of the finest and most ornamental shrubs of the temperate regions of the world; all the species which compose it have hair-like roots, and require a peat soil. Their general properties are astringent and diuretic.

## ERICA. The Heath.

(*Lin. Syst.* Octandria Monogynia.)

Gen. Char.—*Calyx* 4-parted, with a naked base. *Corolla* globose or urceolate, with a 4-lobed limb. *Stamens* enclosed. *Filaments* capillary. *Anthers* bifid. *Stigma* peltate. *Capsule* 4-celled, many seeded. (*Don's Mill.*)

*Derivation.*—The erica of Pliny is altered from the ereike of Theophrastus, which is derived from *ereiko*, to break, in allusion to the brittle branches of the plant; or from the supposed quality of some of the species of breaking the stone in the bladder.

In the language of flowers, Heath is made the emblem of solitude; and thus, when the lover presents his mistress with a bouquet of heath and pansies, she understands his heart would be at ease, if his solitude were blessed by her society.

### 189. Erica Tetralix.

The four-leaved heath.

Spec. Char.—Anthers crested. Style included. Corolla ovate. Leaves 4-ciliated. Flowers capitate.

HAB.—A diminutive evergreen bush. Britain, on heathy boggy ground.

LOCAL.—

DESCRIPT.—Height 6 in. to 1 foot. Flowers July to Sept.; remarkable for their delicate wax-like hue, of every shade of rose-colour, sometimes snow-white, on hairy cottony stalks, collected into a dense, round, terminal, capitate cluster, all elegantly pendulous towards one side.

OBS.—This elegant plant is the badge of the clan Macdonald, and the species most commonly used for making besoms. Every one knows

> "those wastes of heath,
> Stretching for miles to lure the bee;
> Where the wild bird, on pinions strong,
> Wheels round and pours his piping song,
> And timid creatures wander free."—*Mary Howitt.*

### 190. ERICA STRICTA.
### The upright Heath.

SPEC. CHAR.—Anthers crested. Style included. Corolla ovate. Flowers terminal, umbelled. Leaves 4 in a whorl.

HAB.—A fastigiate bush. S. Europe.

LOCAL.—Upper Lawn, and near the City entrance.

DESCRIPT.—Height 2—4 ft. Introd. 1765. Flowers purplish red or flesh-coloured; July to Nov.

OBS.—This is a hardy and very ornamental species, frequent in gardens; forming a neat, compact bush.

## GYPSOCALLIS. THE GYPSOCALLIS, *or* MOOR HEATH.

*(Lin. Syst.* Octandria Monogynia.)

GEN. CHAR.—*Calyx* 4-parted, glumaceous. *Corolla*

campanulate. *Stamens* exserted ; filaments flattened or filiform. *Anthers* bipartite. *Stigma* simple. *Capsule* 4-celled, many-seeded.

*Derivation.*—From *gupsos*, lime, and *kallistos*, most beautiful.

This genus is easily distinguished from Erica, by the exserted anthers, flattened filaments, and simple stigma. The species are very elegant, and generally inhabit calcareous districts, in Europe and Africa.

### 191. Gypsocallis multiflora.

The many-flowered Gypsocallis, *or Moor Heath.*

Spec. Char.—Anthers exserted. Flowers axillary. Bracteas remote. Leaves 4—5 in a whorl. Corolla campanulate, limb reflexed. Pedicel twice as long as the corolla.

Hab.—A diminutive evergreen shrub. S. Europe.

Local.—Eastern side, near the City Entrance.

Descript.—Height 1—2 ft. Introd. 1751. Flowers pale red ; May to Nov. Capsule brown.

Obs.—A very beautiful and most desirable species, from the long continuance of its numerous flowers.

### 192. Gypsocallis carnea.

The flesh-colour-*flowered* Gypsocallis.

Spec. Char.—Anthers exserted. Flowers axillary. Leaves 3—4 in a whorl. Bracteas remote from the calyx. Corolla conical.

Hab.—A diminutive, procumbent, evergreen shrub. S. Germany.

Local.—Eastern side, near the City Entrance.

Descript.—Height 6 inches. Cultivated in 1763. Flowers pale red ; January to April.

Obs.—This plant is more frequently known by the name of Erica herbacea, or the early-flowered-dwarf Heath; and is considered one of the most ornamental species of heaths, coming into flower in the autumn, and remaining in bloom till the following April. Where only one species of heath can be grown in the open air, it is strongly recommended in preference to any other.

### 193. Gypsocallis mediterranea.

### The Mediterranean Gypsocallis.

Spec. Char.—Anthers exserted. Flowers axillary. Leaves 4—5 in a whorl. Bracteas above the middle of the pedicels. Corolla urceolate.

Hab.—A pyramidal shrub. S. Europe, in the region of the Mediterranean.

Local.—Eastern side near the City entrance.

Descript.—Height 4—6 ft. Cultivated in 1596. Flowers red, with dark anthers; March to May.

Obs.—A very pretty shrub, and the hardiest of arboreous heaths in British gardens.

## ARBUTUS. The Arbutus, *or* Strawberry Tree.

(*Lin. Syst.* Decandria Monogynia.)

Gen. Char.—*Calyx* 5-parted. *Corolla* globose; limb 5-cleft, reflexed. *Stamens* 10, enclosed. *Anthers* compressed. *Ovarium* 5-celled; cells many-seeded. *Style* 1. *Stigma* obtuse. *Berry* nearly globose, granular. *(Don's Mill.)*

*Derivation*—From *ar bois*, austere bush, Celtic; in allusion to the austere quality of the fruit.

Beautiful evergreen sbrubs or low trees of easy culture; natives of Europe, Asia and Ameriea; flowering in the autumn, and ripening their fruit the following year.

### 194. Arbutus Unedo.

The Unedo Arbutus, *or Strawberry Tree.*

Spec. Char.—Arboreous. Branchlets clothed with glandular hairs. Leaves oblong-lanceolate, glabrous serrulated. Flowers nodding. Peduncles smooth. (*Don's Mill.*)

Hab.—An evergreen shrub or low tree. Ireland.

Local.—Upper and Lower Lawn. Frequent.

Descript.—Height 10—20 ft. Flowers white; Sept. to Dec. Fruit large, scarlet, resembling a strawberry; ripe in Dec.

Obs.—This is one of the most elegant of hardy shrubs, and in the autumn, from its being covered at once with blossoms and ripe fruits, is peculiarly beautiful. A sugar and a very good spirit have been extracted from the fruit in Spain, and a wine in Corsica; but, in Britain, the sole use of the plant is as an ornamental evergreen shrub or low tree. In Spain, the bark is used by tanners; and the charcoal made from the wood is highly valued. The wood is white, hard and heavy, but brittle, and with little elasticity. The specific name Unedo is said by Pliny to have been so called from *unum edo*, 'I eat one, because, being found disagreeable, no one could eat a second.' The Arbutus has been celebrated from the time of Virgil. Horace praises it for its 'shade,' and Ovid for its 'blushing fruit.' It is mentioned by various writers, both in poetry and in prose, who have been charmed with its beauty. Amongst others, Miss Twamley has the following lines on this tree in her *Romance of Nature*, published in 1836.

"See like a ladye in a festal garb,
How gaily deck'd she waits the Christmas time!
Her robe of living emerald, that waves
And, shining, rustles in the frost-bright air,
Is garlanded with bunches of small flowers,—
Small bell-shaped flowers each of an orient pearl
Most delicately modeled, and just tinged
With faintest yellow, as if, lit within,
There hung a fairy torch in each lamp-flower."

Var. 1. *A. U. ruber.*—Flowers reddish. The handsomest variety in cultivation. Local.—Upper Lawn.

### 195. Arbutus hybrida.

The hybrid Arbutus.

Spec. Char.— Branchlets pilose. Leaves oblong, acute, serrated, glabrous. Panicle terminal, pendulous, downy. Flowers white. Calyx glabrous. (*Don's Mill.*)

Hab.—An evergreen shrub or low tree. Originated in gardens about 1800, by grafting on the common species.

Local.—Lawn facing the back of Brock St.

Descript.—Height 10—20 ft. Flowers white. Sept. to Dec. Fruit scarlet; rarely produced. Bark deciduous.

Obs.—This hybrid appears to have been originated between the Arbutus Unedo and A. Andrachne; and to be intermediate between them in appearance and constitution. It is often mistaken for the A. Andrachne, by the uninitiated, from its bark peeling off; but an attention to the specific character, with the difference in the period of flowering, will readily correct the error. It grows as rapidly as the A. Unedo, forms fully as large a tree, is more beautiful in its flowers, which are in large panicles, and is nearly as hardy.

### 196. Arbutus Andrachne.

The Andrachne Arbutus.

Spec. Char.—Leaves oblong, bluntish, entire in some, a little serrated in others, glabrous. Panicles terminal, erect, clothed with viscid down. Flowers greenish white. Fruit like that of A. Unedo. (*Don's Mill.*)

Hab.—An evergreen shrub or low tree. Levant.

Local.—Near the statue Jupiter.

Descript.—Height 20—30 ft. Introd. 1724. Flowers greenish white; March and April. Fruit like that of A. Unedo; ripe in Dec. Bark deciduous.

Obs.—It differs from the common arbutus in having much longer leaves, smooth, coriaceous and shining, and but slightly, if at all serrated, and polished; but the outer bark cracks, and peels off in very thin papery layers annually, by which alone it is readily distinguished from the common Arbutus (A. Unedo.). This latter peculiarity is also inherited by the hybrid species, and therefore care must be taken not to confound them, on that account, which is often done.

## RHODODENDRON. The Rhododendron, *or* Rose Bay.

(*Lin. Syst.* Penta-Decandria Monogynia.)

Gen. Char.—*Calyx* 5-parted. *Corolla* somewhat funnel-shaped, or campanulate, rarely rotate; limb 5-cleft, bilabiate; upper lip the broadest, and usually spotted. *Stamens* 5—10, exserted, declinate. *Anthers* opening by two terminal pores. *Capsule* generally 5-celled, 5-valved. *Placentas* simple, angular. *Seeds* compressed, scobiform, winged. (*Don's Mill.*)

*Derivation.*—From *rhodon*, a rose, and *dendron*, a tree; in reference to the terminal bunches of flowers, which are usually red, or rose-colour.

Beautiful evergreen or deciduous shrubs, flowering from early spring till late in Autumn. The genus as at present constituted, includes the Azaleas, or deciduous species, as well as those that are evergreen.

### 197. Rhododendron ponticum. The Pontic Rhododendron.

Spec. Char.—Leaves oblong, glabrous; of the same colour on both sides. Corymbs terminal. Corolla campanulate.

Hab.—An evergreen shrub. Gibraltar.

Local.—American bed.

DESCRIPT.—Height 5—12 ft. Introd. 1763. Flowers purple, or rose-coloured; May to July. Capsules brown; ripe in Sept.

OBS.—One of the commonest species in British gardens, forming a dense bush, which will spread over a large space, if it be allowed abundance of room. In Britain, it is planted as an ornamental shrub, not only in open situations, but on a large scale, in woods, to serve as undergrowth, and as a shelter for game.

VAR. 1. *R. p. præcox album.* The early white-flowered Rhododendron. Near the commencement of the Lime trees, on the left-hand side from the City entrance. A garden hybrid, 5—10 ft.

### 198. RHODODENDRON CATAWBIENSE.
### The Catawba Rhododendron.

SPEC. CHAR.—Leaves short, oval, rounded, and obtuse at both ends, glabrous, of a different colour beneath. Calycine segments elongated oblong. Flowers purple, disposed in umbellate corymbs. (*Don's Mill.*)

HAB.—A large evergreen shrub. N. America, near the head waters of the Catawba River.

LOCAL.—American bed.

DESCRIPT.—Height 4 ft. Introd. 1809. Flowers rosy lilac; June to Aug. Capsule brown; ripe in Sept.

OBS.—One of the most common species, and the hardiest in gardens. It is of more robust growth than either of the preceding species, but in other respects, seems intermediate between them.

### 199. RHODODENDRON CAUCASICUM.
### The Caucasian Rhododendron.

SPEC. CHAR.—Leaves scabrous, with rusty tomentum beneath. Flowers in umbellate corymbs. Corolla rotate, with rounded segments.

HAB.—A compact evergreen shrub. Caucasus.

LOCAL.—

DESCRIPT.—Height 1 ft. Introd. 1803. Flowers white or purple.

OBS.—A beautiful plant.

VAR. 1. *R. c. Nobleanum;* is a beautiful hybrid, with the flowers of a deep and brilliant rose colour. LOCAL.—American bed, and small Dell by the Lime tree walk.

### 200. RHODODENDRON FLAVUM.

The Pontic, *or common,* Azalea.

SPEC. CHAR.—Flowers leafy, clammy. Leaves ovate-oblong, pilose, ciliated. Corolla funnel-shaped. Stamens very long. *(Don's Mill.)*

HAB.—A deciduous shrub. Turkey.

LOCAL.—American bed.

DESCRIPT.—Height 4—6 ft. Introd. 1793. Flowers yellow; May and June.

OBS.—This is the *Azalea pontica* of the nurseries, and one of the most ornamental shrubs in British gardens. The varieties and hybrids which have originated between this species and several others, are very numerous, and of surpassing beauty; differing principally in the colour of their flowers, and the hue of the leaves. Azalea is derived from *azaleos*, dry, or arid; in reference to the habitation of the plant.

### 201. RHODODENDRON VISCOSUM.

The clammy-*flowered* Azalea.

SPEC. CHAR.—Leaves green on both sides, ciliated on the margins, having the midrib bristly. Teeth of the calyx very short, rounded.

HAB.—A deciduous shrub. N. America, in swamps and shady woods.

LOCAL.—American bed.

DESCRIPT.—Height 2—6 ft. Introd. 1734. Flowers white, sweet-scented; July and Aug.

OBS.—A beautiful and interesting plant, of which there are numerous varieties and hybrids. It is the *Azalea viscosa* of the nurseries.

VAR. 1. *R. v. glaucum.* The glaucous-*leaved* Azalea. LOCAL.—American bed.

### 202. RHODODENDRON ARBOREUM.

The *scarlet-flowered* Tree Rhododendron.

SPEC. CHAR.—Leaves lanceolate, acute, silvery beneath. Flowers clustered, campanulate. Calyxes and peduncles woolly.

HAB.—A tree. Nepal.

LOCAL.—Eastern end of the Lower Lawn.

DESCRIPT.—Height 10—20 ft. Introd. 1817. Flowers scarlet; May and June.

OBS.—A magnificent plant, of which there are numerous Varieties and Hybrids in cultivation.

## KALMIA. THE KALMIA.

*(Lin. Syst.* Decandria Monogynia.)

GEN. CHAR.—*Calyx* 5-parted. *Corolla* salver-shaped; under side of limb producing 10 cornute protuberances, and as many cavities on the upper side, in which the anthers lie, or are concealed. *Capsule* 5-celled, many-seeded; dissepiments marginal. *(Don's Mill.)*

*Derivation.*—Named by Linnæus in honour of *Peter Kalm*, a Swedish botanist.

Very ornamental evergreen shrubs, natives of N. America; poisonous in all their parts, and often fatal to cattle.

### 203. Kalmia latifolia.

The broad-leaved Kalmia.

Spec. Char.—Leaves on long petioles, scattered or 3 in a whorl, oval, coriaceous, smooth, and green on both surfaces. Corymbs terminal, downy and viscid. *(Don's Mill.)*

Hab.—An evergreen glabrous shrub. N. America.

Local.—American bed.

Descript.—Height 3—10 ft. Introd. 1734. Flowers white, tinted with pale pink, delicately spotted; June and July.

Obs.—The noxious qualities of this elegant shrub lessen that esteem which its beauty claims; for though deer feed on its green leaves with impunity, yet when cattle and sheep, by severe winters deprived of better food, eat the leaves, many die annually. It may be safely planted near game preserves, as neither rabbits nor hares will attack it. The wood is very hard, and is used by the Indians for making spoons and other domestic utensils.

## 11. Epicorollæ *or* Epipetalæ.

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## Order XXXI. HALESIACEÆ.

### The Halesia Tribe.

Char.—*Calyx* 4-toothed. *Corolla* campanulate, 4-lobed. *Stamens* 12—16; monadelphous at the base, and adnate to the corolla. *Ovarium* inferior. *Style* and *Stigma* simple. *Drupe* dry, with 2—4-winged angles; containing a 2—4-celled nut. *Cells* 1-seeded. *Albumen* fleshy. (*G. Don.*)

Deciduous American shrubs or low trees, with beau-

tiful white pendent flowers, resembling those of the common snowdrop.

## HALESIA. The Halesia *or* Snowdrop Tree.

(*Lin. Syst.* Dodecandria Monogynia.)

Gen. Char.—*Corolla* monopetalous, with a 4-lobed erect border. *Stamens* 12—16. *Anthers* oblong, erect, 2-celled. *Ovarium* inferior. *Style* 1. *Stigma* simple. *Drupe* dry, corticate, oblong, with 2—4 winged angles; containing a 2—4-celled putamen. *Cells* 1-seeded. *Seeds* attached to the bottom of the cells. (*G. Don.*)

*Derivation.*—Named by Ellis in honour of the learned and venerable *Stephen Hales*, D. D., F. R. S., author of "Vegetable Statistics," 1727.

### 204. Halesia tetraptera.

The common Snowdrop Tree.

Spec. Char.—Leaves ovate, acuminated, sharply serrated; veins hairy beneath. Petioles glandular. Fruit with 4 wings.

Hab.—A low deciduous tree. S. Carolina.

Local.—Border of the Lower Lawn, near the Western end.

Descript.—Height 15—30 ft. Introd. 1756. Flowers white; April and May. Fruit brown; ripe in Oct.

Obs.—This is one of the hardiest, and at the same time, one of the most ornamental of the American deciduous trees, and well merits a place in every collection. The flowers, which resemble those of the snowdrop, are produced in great abundance, and hang in small bunches all along the branches, each bud producing from four to eight or nine; they appear before the leaves, are of a pure snowy whiteness, and last for 2 or 3 weeks; they are succeeded by pretty large winged juiceless drupes, hanging likewise in bunches great part of the winter.

## Order XXXII. EBENACEÆ.

### The Ebony Tribe.

Char.—*Calyx* 3 or 6-parted, persistent. *Corolla* deciduous, 3 or 6-parted; æstivation imbricate. *Stamens* definite, epipetalous, 6 or 12, or more. *Ovarium* many-celled; cells 1—2 seeded. *Style* usually divided. *Stigmas* bifid or trifid. *Berry* few seeded by abortion. *Albumen* cartilaginous. (*G. Don.*)

Deciduous trees, natives of S. Europe and N. America. They are remarkable for their hard and valuable timber. The bark of some of the species is astringent, while the fruit is in many cases eatable.

### DIOSPYROS. The Date Plum.

(*Lin. Syst.* Polygamia Diœcia.)

Gen. Char.—*Flowers* polygamous. *Calyx* deeply 3—4 or 6-cleft. *Corolla* urceolate, 3—4 or 6-cleft. *Male-flowers* having the stamens inserted by pairs into the base of the corolla. *Hermaphrodite flowers* having fewer and sterile stamens. *Ovarium* 8—12-celled; cells 1-seeded. *Berry* globose. (*Don's Mill.*)

*Derivation.*—Diospuros (*dios*, divine, and *puros*, wheat,) was a name given by the ancients to the common gromwell (Lithospermum officinale). Its application to the date-plum probably arose from confounding the Greek *puros*, wheat, with the Latin *pyrus*, a pear tree, to the fruit of which the date plum may have been thought to bear some resemblance.

#### 205. Diospyros Lotus.

The *European* Date Plum.

Spec. Char. — Leaves oblong, acuminate, downy beneath; leaf buds hairy inside.

HAB.—A low tree. Italy.

LOCAL.—Upper and Lower Lawn, western end.

DESCRIPT.—Height 20—30 ft. Introd. 1596. Flowers small, reddish or yellowish white; July. Fruit size of a cherry, yellow when ripe in Oct.

OBS.—The leaves are of a beautiful dark glossy green above, and when mature, and exposed to the air, assume a purplish hue beneath; they do not change colour in autumn, but drop off simultaneously with the first attack of a sharp frost. The fruit is eaten in the South of Europe, and is supposed to be the lotus of Theophrastus. It is much used in Constantinople, where it is called the date of Trebizond.

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## ORDER XXXIII. OLEACEÆ.

### THE OLIVE TRIBE.

CHAR.—*Flowers* hermaphrodite, or diœcious. *Calyx* divided, permanent. *Corolla* 4-cleft. *Petals* connected by pairs. *Stamens* 2. *Anthers* 2-celled. *Ovarium* simple, 2-celled; cells 2-seeded. *Ovules* pendulous. *Style* simple or wanting. *Stigma* bifid or undivided. *Fruit* drupaceous, baccate or capsular. *Seeds* with dense copious albumen. *(Don's Mill.)*

Trees and shrubs more or less resembling the olive; natives of Europe, Asia, and America. Some of them have emollient and laxative properties; others are bitter, tonic, and febrifugal. Some supply oil, others manna.

### LIGUSTRUM. THE PRIVET.

(*Lin. Syst.* Diandria Monogynia.)

GEN. CHAR.—*Calyx* short, tubular, 4-toothed. *Corolla* funnel-shaped. *Stamens* 2. *Style* very short.

*Stigma* obtuse, bifid. *Berry* globose, containing 2 chartaceous 1-seeded nuts. *Albumen* hardish. *Embryo* inverted. (*Don's Mill.*)

*Derivation.*—Said to be from *ligo*, to tie; in reference to its flexible branches.

Deciduous or sub-evergreen shrubs, with white flowers; natives of most parts of the world.

### 206. Ligustrum vulgare.

### The common Privet.

Spec. Char. — Leaves elliptic-lanceolate, glabrous. Racemes compound, dense.

Hab.—A sub-evergreen shrub. Britain.

Local.—Frequent.

Descript.—Height 6—10 ft. Flowers sweet-scented, white; June and July. Berries dark purple, almost black; ripe in Nov.

Obs.—This plant was anciently called prim, or prim-print, from its being used for verdant sculptures, or topiary work, and for primly cut hedges. The common English name of Privet may have been given to it from its being frequently planted in gardens to conceal privies. It is an ornamental and useful shrub, and in moist ground, when partially shaded, its long flexible branches form an impenetrable undergrowth, well adapted for covers in game preserves, &c. The berries are harmless, and are fed on by pheasants, partridges, and other birds. It is remarkably patient of the shears, and is sometimes cut into singularly fantastic forms; and is one of the few plants that will grow under the shade and drip of trees, and confined smoky situations, for which reason it is common even in the close parts of large towns. The Sphinx ligustri, or privet hawkworth, and the Phalæna syringaria, feed on it in their caterpillar state; as does the Cantharis vesicatoria, the well-known blister beetle, commonly called the Spanish fly.

Var. 1. *L. v. xanthocarpum.* The yellow-berried variety. Near the hand-gate, formerly leading to Griffin's Nursery, through Park Lane.

### 207. Ligustrum lucidum.

The shining-*leaved* Privet, *or Wax Tree.*

Spec. Char. — Leaves ovate-oblong, acuminated, shining above. Panicles spreading.

Hab.—A low sub-evergreen tree. China.

Local.—Upper Lawn.

Descript.—Height 10—20 ft. Introd. 1794. Flowers white; Sept. and Oct.

Obs.—A very handsome showy species, producing towards the end of summer its large spikes of white flowers. This tree is said to afford a kind of waxy-matter in China.

## PHILLYREA. The Phillyrea.

(*Lin. Syst.* Diandria Monogynia.)

Gen. Char.—*Calyx* 4-toothed, permanent. *Corolla* 4-cleft. *Stamens* a little exserted. *Style* simple. *Stigma* thickish. *Drupe* globose, containing a 2-celled nut. *Seed* solitary in each cell. *Albumen* rather farinaceous or fleshy. *(Don's Mill.)*

*Derivation.*—From *phullon*, a leaf; or from *Philyra*, the mother of Chiron, who was changed into a tree.

Evergreen shrubs, natives of the South of Europe, which have been in cultivation in British gardens for nearly three centuries. They are all most desirable on account of their shining dark-green leaves, and the fragrance of their numerous white flowers. They are also less affected by the smoke of towns than many other plants. By general observers, the Phillyrea is frequently confounded with the alaternus; but the species of that genus have their leaves placed alternately on their branches, whereas in the Phillyrea they are opposite.

### 208. Phillyrea media.

The intermediate, *or lance-leaved*, Phillyrea.

Spec. Char.—Leaves lanceolate, entire, or serrate in the middle, triple-nerved.

Hab.—An evergreen shrub. S. Europe.

Local.—Near the statue Jupiter.

Descript.—Height 10—15 ft. Introd. 1597. Flowers greenish white; May and June. Berries black; ripe in Oct.

Obs.—It is said that few shrubs are better adapted for an exposed situation than this species. It grows slowly and regularly on every side, and in the course of a few years, forms a dense, twiggy, evergreen shrub, of somewhat hemispherical shape. All the kinds of Phillyrea in cultivation are considered to be nothing more than varieties of this species. This kind, *P. augustifolia, latifolia, and obligua*, are those most commonly to be met with in British nurseries.

### 209. Phillyrea (m.) angustifolia.
### The narrow-leaved Phillyrea.

Spec. Char.—Leaves linear-lanceolate, quite entire. Branches beset with elevated dots. Leaves obsoletely veined. (*Don's Mill.*)

Hab.—An evergreen shrub. Italy and Spain.

Local.—Upper boundary near the carriage entrance.

Descript.—Height 8—10 ft. Introd. 1597. Flowers greenish white; May and June.

Obs.—A very pretty, neat, and ornamental shrub, and with its varieties, well deserving a place in every collection.

### 210. Phillyrea (m.) latifolia.
### The broad-leaved Phillyrea.

Spec. Char.—Leaves ovate, rounded at the base, serrated, veiny. Young leaves sub-cordate at the base. (*Don's Mill.*)

Hab.—A low sub-evergreen tree or shrub. S. Europe.

LOCAL.—Western end of the Upper Lawn, and near the stone yard.

DESCRIPT.—Height 20—30 ft. Introd. 1597. Flowers greenish white; May and June.

OBS.—A very handsome, large, evergreen bush; or by training with management a beautiful small tree, well adapted for being placed near the house, on a lawn of a suburban garden.

### 211. PHILLYREA (M.) LÆVIS.

The smooth-leaved Phillyrea.

SPEC. CHAR.—Leaves elliptic-oblong, mucronated, almost entire, veiny, obtuse and glossy.

HAB.—An evergreen shrub. S. Europe.

LOCAL.—Near the Circus hand-gate, and opposite the Pond.

DESCRIPT.—Height 10—20 ft. Introd. 1597. Flowers greenish white; May and June.

OBS.—A fine shrub, the leaves of which are smoother than those of any other variety, with a fine gloss upon them as if varnished, and a small mucro at the point.

### 212. PHILLYREA (M.) OBLIQUA.

The oblique-*leaved* Phillyrea.

SPEC. CHAR.—Leaves oblong, serrated, acute at each end, veiny, bent obliquely.

HAB.—An evergreen shrub. S. Europe.

LOCAL.—Upper Lawn.

DESCRIPT.—Height 10—12 ft. Introd. 1579. Flowers greenish white; May and June.

OBS.—After the leaves are full grown, the petioles twist a little, which gives the disk of the leaf an oblique direction.

### 213. Phillyrea (m.) spinosa.

The spiny, *or Holly-leaved,* Phillyrea.

Spec. Char.—Leaves ovate-oblong, rounded at the base, acute, sharply and cuspidately serrated, glabrous, flat, veiny. (*Don's Mill.*)

Hab.—An evergreen shrub. S. Europe.

Local.—Centre Lawn facing the City entrance.

Descript.—Height 10—20 ft. Introd. 1597. Flowers greenish white; May and June.

Obs.—A neat and handsome shrub.

## SYRINGA. The Lilac.

(*Lin. Syst.* Diandria Monogynia.)

Gen. Char.—*Calyx* small, 4-toothed. *Corolla* funnel-shaped, with a 4-parted limb. *Stamens* 2, enclosed. *Stigma* trifid. *Capsule* ovate, compressed, 2-celled, 2-valved, 2-seeded; valves navicular, with a narrow dissepiment in the middle. (*Don's Mill.*)

*Derivation.*—From *sirinx*, the native name in Barbary.

The tubes of the finest Turkish pipes are manufactured from the wood of this shrub; and also from that of the Philadelphus coronarius, to which the name was originally given. Hence the old English name of Pipe Tree, which was applied both to the Philadelphus and the *Syringa.* Lilac is from *lilac*, or *lilag*, the Persian word for a flower.

Shrubs or low trees; natives of Europe or Asia. They are highly valued in the gardens of temperate climates for the beauty and fragrance of their flowers, and the profusion in which they are produced in spring.

### 214. Syringa vulgaris.

The Common Lilac.

Spec. Char.—Leaves ovate-cordate, acuminated.

HAB.—A deciduous shrub. Persia.

LOCAL.—Frequent.

DESCRIPT.—Height 8—10 ft. Introd. 1597. Flowers purple or white; May. Fruit brown; ripe in Sept.

OBS.—There are several varieties of this deservedly popular and well-known shrub. The present species is very common, in universal cultivation on account of the beauty of its leaves and flowers; the latter of which are also very fragrant. Mixed with sweet briars, sloe thorns, scarlet thorns, Guelder rose trees, Laburnum, &c., it forms beautiful hedges to cottage gardens, where there is abundance of room.

VAR. 1. *S. v. alba.*—The white-flowered variety. LOCAL—By the Brock St. entrance, and between the Upper and Lower Dell.

### 215. SYRINGA PERSICA.
### The Persian Lilac.

SPEC. CHAR.—Leaves small, lanceolate. Branches virgate, mottled.

HAB.—A deciduous shrub. Persia.

LOCAL.—Border of the Lower Lawn. Frequent.

DESCRIPT.—Height 4—6 ft. Introd. 1640. Flowers purple; May and June.

OBS.—One of the most common, and at the same time, one of the most ornamental of our low deciduous shrubs. It is frequently planted in pots, and forced so as to come into flower at Christmas.

### 216. SYRINGA ROTHOMAGENSIS.
### The Rouen Lilac.

SPEC. CHAR.—Leaves ovate-lanceolate. Branches stiff, mottled.

HAB.—A deciduous shrub. Rouen.

LOCAL.—Upper and Lower Lawn.

DESCRIPT.—Height 6—8 ft. Introd. 1795. Flowers purple.

OBS.—It is of very vigorous growth, and a most abundant flowerer. A hybrid between the two former species, raised at Rouen by M. Varin, the director of the Botanic Garden there.

## FRAXINUS. THE ASH.

*(Lin. Syst.* Polygamia Dicœcia.)

GEN. CHAR.—*Flowers* polygamous. *Calyx* none, or 4-toothed. *Corolla* none. *Stamens* 2, in the male flowers. *Anthers* sessile. *Female Flowers* with a bifid stigma to each pistil. *Fruit*, or samara, 2-celled, compressed, winged at top. *Cells* 1-seeded. *(Don's Mill.)*

*Derivation.*—The derivation of Fraxinus given in Don's *Miller*, is, from *phrasso*, to enclose; the ash having been formerly used for making hedges. Linnæus derives it from *phraxis*, a separation, because the wood splits easily. Others derive it from *frangitur*, because the young branches are easily broken; or which may have been applied ironically, in allusion to the extreme toughness of the old wood. None of these derivations, however, appear very satisfactory. The English name of Ash may be derived either from the Saxon word *æse*, a pike; or from the colour of the bark of the trunk and branches, which resembles that of wood-ashes.

Timber trees celebrated from the days of Theophrastus, of which there are but few species, but almost innumerable varieties.

### 217. FRAXINUS EXCELSIOR.

The taller, *or common*, Ash.

SPEC. CHAR.—Leaves with 5 or 6 pairs of leaflets. Leaflets lanceolate, serrated. Flowers naked, in loose spikes from the sides of the branches.

HAB.—A large deciduous tree. Britain, in woods and hedges.

LOCAL.—Near the Farm House, stands a remarkably fine tree.

DESCRIPT.—Height 30—80 ft. Flowers greenish yellow; March and April, before the leaves appear. Samara brown; ripe in Oct. Decaying leaves brown and yellow. The bark is ash-coloured when old, and dark grey when young. The buds are constantly *black*, which distinguishes it from the American species.

OBS.—One of the most noble, and not the least elegant and ornamental, of our forest trees. Its graceful form and majestic appearance are well known; and is justly termed by Virgil "Pulcherrima sylvis." It varies exceedingly in its form: sometimes the lower branches are long and pendent, while the upper are spreading or erect; at others the extremities of the lower branches are curved upwards. No deciduous tree whatever, in cultivation in British plantations, is more injurious to plants growing under it than this. However, it is one of the most useful of our native timber trees. It is peculiarly adapted for implements of husbandry, and the coachmaker and wheeler; it makes excellent fuel, with very little smoke; good hop-poles and hoops, excellent handles for tools, and very good walking-sticks. Its period of leafing is very late, being seldom earlier than the last week of April, and not unfrequently about the middle of May.

VAR. 1. *F. e. foliis variegatis.* The variegated-leaved common Ash. LOCAL.—Lawn, South side of the Obelisk.

VAR. 2. *F. e. pendula.* The common weeping Ash. LOCAL.—Lawn near the Obelisk. It gives a grotesque, but highly ornamental appearance to the lawn and pleasure ground where planted.

VAR. 3. *F. e. aurea.* The gold-barked common Ash. LOCAL.—Near the R. V. P. Gate, and opposite the Pond. It is conspicuous, particularly in winter, not only from the yellow colour of its bark, but from the curved, contorted character of its branches, which somewhat resemble the horns of an animal.

## 218. FRAXINUS (E.) HETEROPHYLLA.

### The various-leaved Ash.

SPEC. CHAR.—Leaves simple or trifoliate, dentately serrated. Buds black.

Hab.—A deciduous tree. Britain, in woods.

Local.—Road side, nearly opposite the statue Jupiter.

Descript.—Height 30—40 ft. Flowers greenish yellow ; April and May.

Obs.—An interesting and beautiful tree, but supposed to be only a variety of the common Ash.

### 219. Fraxinus pubescens.

The downy American Ash.

Spec. Char.—Leaflets 3—4 pairs, petiolate, elliptic-ovate, serrated, downy or tomentose beneath, as well as the petioles and branches.

Hab.—A deciduous tree. N. America.

Local.—Roadside near the Pond.

Descript.—Height 30 ft. Introd. 1811. Flowers greenish-yellow ; May.

Obs.—An ornamental tree.

## ORNUS. The Flowering Ash.

(*Lin. Syst.* Diandria Monogynia, *or* Polygamia Dicœcia.)

Gen. Char.—*Flowers* hermaphrodite, or of distinct sexes. *Calyx* 4-parted or 4-toothed. *Corolla* 4-parted ; segments long, ligulate. *Stamens* with long filaments. *Stigma* emarginate. *Samara* 1-celled, 1-seeded, winged. (*Don's Mill.*)

*Derivation.*—From *oros*, the Greek word for a mountain.

Handsome low or middle-sized, deciduous trees, with white flowers; natives of Europe, N. America, and Asia; in British gardens, propagated by grafting on the common ash, and sometimes by seeds.

### 220. Ornus europæa.

The European Flowering, *or Manna,* Ash.

Spec. Char.—Leaves with 3—4 pairs of lanceolate or elliptic, attenuated, serrated, stalked leaflets, which are entire at the base, villous or downy beneath.

Hab.—A deciduous tree. Italy.

Local.—Upper part of the Hort. Gard.

Descript.—Height 20—30 ft. Introd. 1730. Flowers complete or hermaphrodite, greenish white; May and June. Young branches purplish or livid, with yellow dots. Buds cinereous. Samara brown; ripe in Oct.

Obs.—A very handsome small tree, and a free flowerer. The substance called Manna is collected from this species in Calabria and Sicily. The trees are wounded a foot or two above the ground, and the sap which flows from them during the greatest heats of summer becomes concrete as it runs down, and the granulated particles are scraped off, and form the Manna of the shops.

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## Order XXXIV. JASMINACEÆ.

### The Jasmine Tribe.

Char.—*Calyx* tubular, divided or toothed. *Corolla* salver-shaped, 5-cleft; æstivation imbricate and twisted. *Stamens* epipetalous. *Ovarium* 2-celled. *Cells* 1-seeded. *Style* 1. *Stigma* 2-lobed. *Fruit* a didymous berry, or a biparted capsule. *Albumen* sparing, or wanting altogether. (*Don's Mill.*)

Deciduous or evergreen shrubs, with white or yellow flowers, highly odoriferous; natives of Europe and Asia.

## JASMINUM. The Jasmine.

(*Lin. Syst.* Diandria Monogynia.)

Gen. Char.—*Calyx* tubular, 5—8-toothed, or cleft. *Corolla* 5—8-cleft. *Stigma* 2-lobed or bifid. *Berry* didymous, having one of the lobes usually abortive. *Seeds* without albumen. (*Don's Mill.*)

*Derivation.*—Linnæus derives this name from *ion*, a violet, and *osme*, smell; but the scent of the flowers has no resemblance to that of the violet. Forskoel says that it is taken from the Arabian name of the plant, *Ysmym*, which appears much more probable.

### 221. Jasminum fruticans.

The Sprig producing, or *shrubby*, Jasmine.

Spec. Char.—Leaves alternate, trifoliate, and simple. Leaflets sub-cuneate. Branches angular. Calycine segments subulate.

Hab.—A sub-evergreen shrub. S. Europe.

Local.—Border of the Lower Lawn, western end.

Descript.—Height 6—8 ft. Introd. 1570. Flowers yellow; May to Oct. Fruit black; ripe in Nov.

Obs.—A very desirable species, either for planting in borders, or against walls; flowering freely, and ripening abundance of fruit.

### 222. Jasminum officinale.

The officinal, or *common*, Jasmine.

Spec. Char.—Leaves pinnate; leaflets ovate, acuminated, terminal one longest. Young buds erectish.

Hab.—A climbing shrub, evergreen from the colour of its shoots. Mount Caucasus.

LOCAL.—Wall in the Gravel-Walk.

DESCRIPT.—Stems 40—50 ft. Introd. 1548. Flowers white, highly odoriferous; June to Aug. Fruit black.

OBS.—It has been a favorite wall-shrub from time immemorial, and is indeed an old and much prized inhabitant of our gardens. "The custom which prevails in some countries, of brides wearing jasmine flowers in the hair when they are married, is thus accounted for:—A certain Grand-Duke of Tuscany had, in 1669, a plant of the delicioously scented jasmine of Goa, (J. odoratissimum,) which he was so careful of that he would not suffer it to be propagated. His gardener, however, being in love with a peasant girl in the neighbourhood, gave her a sprig of this choice plant on her birthday; and she, having learned from him to make cuttings, planted the sprig as a memorial of his affection. The cutting grew rapidly, and every one who saw it, admiring its beauty and sweetness, wished to have a plant of it. These the girl supplied from cuttings, and sold them so well, as to obtain enough money to enable her to marry her lover. The young girls of Tuscany, in remembranee of this adventure, always deck themselves on their wedding-day, with a nosegay of jessamine; and they have a proverb, that 'she who is worthy to wear a nosegay of jessamine, is as good as a fortune to her husband.'" (Sentiment of Flowers, p. 8.) This eustom, however, appears to prevail, also, in the East, aeeording to Moore:—

> "And brides, as delicate and fair
> As the white jasmine flowers they wear,
> Hath yemen in her blissful elime."

The flower alluded to in the beautiful lines below, also by Moore, who says:—

> "'Twas midnight—through the lattice, wreathed
> With woodbine, many a perfume breathed,
> From plants that wake when others sleep,
> From timid jasmine buds, that keep
> Their odour to themselves all day,
> But when the sunlight dies away,
> Let the delicious secret out
> To every breeze that roams about."

## Order XXXV. APOCYNACEÆ.

### The Dogbane Tribe.

Char.—*Calyx* 5-cleft, persistent. *Corolla* 5-lobed, deciduous; æstivation imbricate. *Stamens* 5, epipetalous. *Ovarium* solitary or twin; usually many-seeded. *Styles* 1 or 2. *Stigmas*, where 2, applied to each other. *Fruit* follicular, drupaceous, or baccate; solitary or twin; 1 or many-seeded. *Albumen* generally present. *(G. Don.)*

Creeping or trailing evergreens, that will thrive under the shade and drip of trees; natives of Europe.

### VINCA. The Periwinkle.

(*Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* 5-cleft. *Corolla* salver-shaped; throat bearded; *Stamens* 5, inserted in the throat, enclosed. *Anthers* ending each in a hairy membrane at the apex. *Stigma* bearded. *Glands* 2. *Follicles* 2, erect, few-seeded. *Seeds* cylindrical, naked. *Albumen* fleshy. (*Don's Mill.*)

*Derivation.*—In Don's *Miller*, this word is said to be derived from *vinco* to conquer; because the species subdue other plants by their creeping roots, or bind them by their runners: but a much better origin seems to be from *vinculum* a band, on account of the suitableness of the shoots for the purpose of making bands.

#### 223. Vinca major.

#### The greater Periwinkle.

Spec. Char.—Stems nearly erect. Leaves ovate, ciliated. Flowers stalked. Segments of the calyx setaceous, elongated.

HAB.—A low, trailing, suffruticose evergreen. Britain, in moist groves.

LOCAL.—Frequent.

DESCRIPT.—Height 2 ft. Flowers blue, from March to Sept. It forms a dense, dark green, low, trailing bush, growing freely under the shade and drip of trees.

OBS.—In the middle ages, many curious medical virtues were attributed to this plant; the most amusing of which is that mentioned by Culpepper, that, "The leaves of the periwinkle, eaten by man and wife together, do cause love between them." Rousseau's anecdote of this flower is well known. He tells us that he was walking with Madame de Warens, at Charmettes, when she suddenly exclaimed, "There is the periwinkle still in flower." Rousseau, being short-sighted, had never before observed this flower, which always grows near the ground; and stooping down, he gazed at it with pleasure. He did not see it again for 30 years; when, being at Gressier, and climbing a hill with M. Peyron, he observed something blue among the bushes; and stooping down to examine it, he uttered, with a cry of joy, "Voilà la pervenche!" and all the tender emotions of the moment when he first saw it rushed back upon his mind. Hence the plant in France, is consecrated "*Aux doux souvenirs*;" and is generally planted near a monumental urn, or other ornament or building dedicated to the remembrance of a friend.

### 224. VINCA MINOR.

### The lesser Periwinkle.

SPEC. CHAR.—Stems procumbent. Leaves elliptic-lanceolate, glabrous. Flowers stalked. Segments of the calyx lanceolate.

HAB.—A trailing evergreen undershrub. Britain, in bushy places.

LOCAL.—Rockwork, near the statue Jupiter.

DESCRIPT.—Stems 1—4 ft. Flowers blue, void of scent; with white throat, varying to purple and white;

of a smaller size than that of the former species. March till Sept.

Obs.—A beautiful species, varying much in the colour of the flowers; they are also sometimes double; and the foliage is sometimes variegated, either with white or yellow stripes. Like the preceding kind, it is usefully employed in covering bare ground in shaded situations, also mixed with other plants on rockwork, it is very ornamental.

Var. 1. *V. m. flore albo.*—Flowers white. Local.—Near the Lime tree walk, and by the statue Jupiter.

Var. 2. *V. m. flore pleno.*—Flowers double. Local.—Near the Lime tree walk.

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## Order XXXVI. BIGNONIACEÆ.

### The Trumpet-Flower Tribe.

Char.—*Calyx* divided or entire. *Corolla* tubular, generally irregular, 4—5-lobed. *Stamens* 5. *Ovarium* 2-celled. *Stigma* bilamellate. *Capsule* 2-valved, 2-celled. *Dissepiment* parallel or contrary. *Seeds* compressed, winged. *Albumen* none. *(G. Don.)*

Shrubs, climbing by tendrils; natives of N. America and China.

### CATALPA. The Catalpa.

*(Lin. Syst.* Diandria Monogynia.)

Gen. Char.—*Calyx* 2-parted. *Corolla* campanulate, with a ventricose tube. *Stamens* 5, 2 fertile, and 3 sterile. *Stigma* bilamellate. *Capsule* silique-formed, 2-valved. *Dissepiment* opposite the valves. *Seeds* membranously margined, and pappose at the base and apex. *(Don's Mill.)*

*Derivation.*—The Indian name of a species of Bignonia.

### 225. Catalpa syringæfolia.

The Lilac-*like*-leaved Catalpa.

Spec. Char.—Leaves cordate, flat, 3 in a whorl.

Hab.—A deciduous tree. N. America, on the banks of rivers.

Local.—Upper Lawn, and border of the Lower Lawn.

Descript.—Height 20—30 ft. Introd. 1726. Flowers white, marked with purple and yellow; July and Aug. Capsules remarkably long, narrow, and horny.

Obs.—This beautiful tree is a splendid object when in flower, and not less remarkable when covered with its seed pods, which are frequently 2 ft. long, and curled upwards so as to resemble horns. The bark is said to be tonic, stimulant, and more powerfully antiseptic than the Peruvian bark; and the honey collected from its flowers to be poisonous.

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## Order XXXVII. SOLANACEÆ.

The Nightshade Tribe.

Char.—*Calyx* 5-cleft, persistent. *Corolla* 5-cleft, usually regular; æstivation imbricate or plicate. *Stamens* 5, rarely 4, epipetalous. *Style* 1. *Fruit* 2—4-celled, capsular or baccate. *Albumen* fleshy. *(G. Don.)*

Deciduous or sub-evergreen Shrubs; natives of Europe, Asia, and S. America. Their general properties are narcotic. Some of them yield edible tubers and fruit; others are tonic, pungent, stimulant, and diaphoretic.

### SOLANUM. The Nightshade.

*(Lin. Syst.* Pentandria Monogynia.)

Gen. Char.—*Calyx* permanent, 5 or 4-cleft. *Corolla*

rotate, or campanulate, 4 or 5-cleft. *Anthers* oblong, connivent, opening by 2 pores at the apex. *Berry* almost globose; 2—3—4-celled, but usually 2-celled. *(Don's Mill.)*

*Derivation.*—The first use of the word *Solanum* occurs in the writings of Tragus, who applied it to Chenopodium hybridum. It is said to be derived from *solari*, to console. The Greeks called our European solanums *struchnoi*, a name which Linnæus transferred to the genus of tropical shrubs, strychnos, to which the nux vomica belongs.

### 226. Solanum Dulcamara.

The Bitter-sweet, *or woody* Nightshade.

Spec. Char.—Stem wavy. Leaves ovate-cordate; superior ones hastate. Corymbs opposite the leaves.

Hab.—A climbing deciduous shrub. Britain, in hedges.

Local.—Subscription Walk; Hedge, western side of the Farm House, and also by the side of the Pond.

Descript.—Stem 6—8 ft. Flowers violet, with the segments of the corolla reflexed, each segment furnished with 2 green spots at the base; June and July. Berry red; ripe in Sept.

Obs.—The roots of this plant smell like the potatoe, and both roots and stalks upon being chewed, first cause a sensation of bitterness, and afterwards a sweetness, whence the specific name. The berries are poisonous. The plant has reputed medical virtues, as a diuretic and sudorific, chiefly used in cutaneous affections, chronic rheumatism, dropsy, scrofula, &c. "The active principle of Solanum Dulcamara is an alkali, called *Solania*, which is, in that plant, combined with malic acid." The following beautiful lines upon it are by Barry Cornwall:—

"Tread aside from my starry bloom!
I am the nurse, who feed the tomb
(The tomb, my child) with dainties piled,
Until it grows strong as a tempest wild.

Trample not on a virgin flower!
I am the maid of the midnight hour;
I bear sweet sleep, to those who weep,
And lie on their eyelids dark and deep.

Tread not thou on my snaky eyes!
I am the worm that the weary prize,
The Nile's soft asp, that they strive to grasp,
And one that a queen has loved to clasp!

Pity me! I am she, whom man,
Hath hated since ever the world began;
I soothe his brain, in the night of pain,
But at morning he waketh,—and all is vain!"

### 227. Solanum crispum.

The curled-*leaved* Solanum.

Spec. Char.—Leaves ovate, sub-cordate, wavedly curled, acuminate. Flowers corymbose.

Hab.—A large sub-evergreen rambling shrub. Chili.

Local.—Dell, back of Brock Street.

Descript.—Height 15—30 ft. Introd. 1830. Flowers of a bluish colour; May to Sept.

Obs.—A hardy vigorous-growing plant, of a much more ligneous character than the previous species, sub-evergreen, and covered with flowers nearly the whole summer, which renders it highly ornamental. It is a valuable shrub for covering naked walls, or varying ruins or rockwork.

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## Order XXXVIII. SCROPHULARIACEÆ.

The Figwort Tribe.

Char.—*Calyx*, 4—5-parted, persistent. *Corolla*, deciduous, irregular, or bilabiate, or regular; æstivation, imbricate. *Stamens*, 2 or 4, usually didynamous. *Ovarium*, 2-celled. *Style*, 1. *Stigma*, 2-lobed, or undivided.

*Fruit*, generally capsular, 2-celled, 2—4-valved, many-seeded. *Albumen*, copious. (*G. Don.*)

The plants of this order are chiefly herbaceous; the hardy, ligneous genera being Buddlea and Paulownia. They are natives of all parts of the world, and have acrid or sedative properties.

## BUDDLEA. The Buddlea.

(*Lin. Syst.* Tetrandria Monogynia.)

Gen. Char.—*Calyx* 4-cleft, equal. *Corolla* tubular; limb 4-cleft, regular. *Stamens* 4, equal, enclosed. *Stigma* capitate or clavate. *Capsule* 2-celled, 2-valved; valves bifid. *Placenta* central, at length free. (*G. Don.*)

*Derivation.*—Named by Dr. Houston in honor of *Adam Buddle*, a botanical amateur, who is often mentioned in Ray's *Synopsis*, and whose dried collection of British plants is preserved in the British Museum.

### 228. Buddlea globosa.

The Globe-*flowered* Buddlea.

Spec. Char.—Leaves lanceolate, acuminated, crenated, beneath hoary. Heads of flowers globose, pedunculate.

Hab.—A large, spreading, deciduous shrub. Chili.

Local.—Western end of the Upper Lawn.

Descript.—Height 12—15 ft. Introd. 1774. Flowers bright yellow, in globe-like heads, fragrant; May to July.

Obs.—A very handsome shrub, and one of the oldest inhabitants of our gardens; but, being somewhat tender, it requires a warm, sheltered situation and a dry soil. The leaves have the color and rugose appearance of the common sage. The flowers may be likened to golden balls, and are very ornamental.

## PAULOWNIA. The Paulownia.

*(Lin. Syst.* Didynamia Angiospermia.)

Gen. Char.—*Calyx* campanulate, 5-cleft. *Corolla* tubularly campanulate, with a 5-cleft, sub-labiate limb. *Stamens* 4, didynamous. *Stigma* truncate. *Capsule* woody, 2-celled, 2-valved. *Valves* septicidal. *Seeds* numerous, each surrounded by a wing, attached to a fixed placenta on the back of the dissepiment. *Albumen* fleshy. (*Sieb.*)

*Derivation.*—Named by Dr. Sieboldt in honour of Her Imperial and Royal Highness, the Hereditary Princess of the Netherlands.

### 229. Paulownia imperialis.

### The Imperial Paulownia.

Spec. Char.—Leaves ovate, cordate at the base, acute, undivided or 3-lobed, densely clothed with soft hairs beneath. Flowers panicled; calyx covered with rusty tomentum. (*Sieb.*)

Hab.—A magnificent deciduous tree. Japan.

Local.—Dell, back of Brock St.

Descript.—Height 30—40 ft. Introd. 1840. Flowers purplish, or with the different shades from blue to purplish lilac. April.

Obs.—Allied in habit to *Catalpa syringæfolia*, but is not so hardy, for the young shoots are generally killed by the frost in winter, and consequently, it does not often flower in the open ground in this country. It has however flowered at Paris frequently. Altogether it is a splendid tree both in flowers and foliage.

## Sub-Class IV. MONOCHLAMYDEÆ, *or* APETALÆ.

*Having a Calyx only, or no floral envelopes.*

### I. Angiospermiæ.

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### Order XXXIX. LAURACEÆ.

The Laurel Tribe.

Char.—*Perianth* 4—6-cleft; æstivation imbricate. *Stamens* definite, perigynous. *Anthers* adnate, 2—4-celled. *Ovarium* free, 1-seeded. *Style* and *Stigma* simple. *Fruit* a berry or drupe. *Albumen* none. *(G. Don.)*

Deciduous or evergreen trees and shrubs, natives of Europe, and N. America, all more or less valuable for their foliage. Their general properties are aromatic, stimulant, and tonic; but some are sedative and diaphoretic.

### LAURUS. The Laurel, *or* Bay Tree.

(*Lin. Syst.* Enneandria Monogynia.)

Gen. Char.—*Sexes* polygamous or dicœcious. *Calyx* with 6 sepals. *Stamens* 9; 6 exterior, 3 interior. *Anthers* adnate; of 2 or 4 cells. *Fruit* a carpel, 1-seeded. *Cotyledons* eccentrically peltate. (*Willd.*)

*Derivation.*—From *laus*, praise; in reference to the ancient custom of crowning the Roman conquerors with laurel in their triumphal processions.

#### 230. Laurus nobilis.

The noble Laurel, *or Sweet Bay.*

Spec. Char.—Evergreen. Flowers 4-cleft. Sexes dicœcious. Leaves lanceolate, veiny. (*Willd.*)

HAB.—An evergreen low tree or large shrub. Italy.

LOCAL.—Frequent. Lower Dell.

DESCRIPT.—Height 30—60 ft. Introd. 1561. Flowers white or yellow; April and May. Berry very dark purple; ripe in Oct.

OBS.—An evergreen tree, or rather an immense bush, celebrated from the earliest ages as being employed to form the wreaths for crowning victors. To the poet and sculptor it still affords emblems for victorious heroes; and it is also used in cookery and medicine. Both the leaves and the berries have a sweet, fragrant odour, and an aromatic, astringent taste. In time, the laurels were extended from military candidates to men of letters; hence, in the middle ages, poets were crowned with wreaths of laurel, and hence our expression "poet-laureate." "Students who have taken their degrees at the universities are called bachelors, from the French *bachelier*, which is derived from the Latin *baccalaureus*, a laurel berry. The students were not allowed to marry, lest the duties of husband and father should take them from their literary pursuits: and in time all single men were called bachelors."

VAR. 1. *L. n. latifolia.* Leaves much broader and smoother than those of the species. LOCAL.—Upper boundary, upon the Lawn.

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## ORDER XL. THYMELACEÆ.

### THE MEZEREON TRIBE.

CHAR.—*Perianth* tubular, coloured, 4—5-cleft. *Stamens* usually 8, sometimes 4, rarely 2. *Ovarium* superior, 1 seeded. *Stigma* undivided. *Fruit* nucamentaceous or drupaceous. *Albumen* thin, fleshy, or none. *(G. Don.)*

Deciduous and evergreen shrubs, with showy fragrant flowers; natives of Europe, Asia, and N. America. The plants of this order possess acrid, irritant, and occasionally narcotic qualities.

## DAPHNE. The Daphne.

*(Lin. Syst.* Octandria Monogynia.)

Gen. Char.—*Calyx* inferior, segments of its limb 4; imbricate in æstivation. *Stamens* 8, in two rows, short. *Ovary* solitary. *Style* very short. *Stigma* capitate. *Fruit* an ovate carpel, pulpy externally. *Seed* 1. (*Willd.*)

*Derivation.—Daphne* is considered by some botanists to have been the Greek name of the Ruscus racemosus, or Alexandrian laurel, into which it is fabled that Daphne was changed. "Why the name has been applied to the shrubs now called Daphne, it is not easy to say." (*Lindl. Bot. Reg.*)

### 231. Daphne Mezereum.

The common Mezereon.

Spec. Char.—Flowers sessile, naked on the stem, about 3 together. Leaves lanceolate, deciduous.

Hab.—A low, fastigiate, deciduous shrub. Britain, in woods.

Local.—Near Brock Street entrance.

Descript.—Height 3—4 ft. Flowers red; March and April. Berries red; ripe in Aug. and Sept.

Obs.—The Mezereon is an old and well known inhabitant of the shrubbery, and deservedly much admired for its precocity and fragrant flowers produced in February or March before the leaves; when, as Cowper observes, its branches are,

> "Though leafless, well attired, and thick beset
> With blushing wreaths, investing every spray."

The whole shrub is poisonous to human beings, though the berries are a favourite food for finches and other birds, more especially the robin. The branches afford a yellow dye.

Var. 1. *D. M. autumnale.* The autumn-flowering Mezereon.
Local.—Upper Lawn, Western end.

### 232. Daphne pontica.

### The Pontic Daphne.

Spec. Char.—Leaves lanceolate, ovate. Peduncles lateral, 2-flowered.

Hab.—A low spreading, branchy, hardy, evergreen shrub. Asia Minor.

Local.—Frequent. Upper and Lower Lawn.

Descript.—Height 3—5 ft. Introd. 1759. Flowers in twins, greenish yellow; April and May.

Obs.—A charming plant and valuable alone for its thriving under the shade and drip of trees in the shrubbery. In general appearance it strongly resembles the common spurge laurel, *(D. Laureola;)* but the leaves are more oval and shorter, and the flowers, which are disposed in twos instead of fives, are yellower, and of a sweeter scent. The leaves somewhat resemble those of the lemon tree, especially in colour.

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## Order XLI. ELÆAGNACEÆ.

### The Oleaster Tribe.

Char.—*Perianth* tubular, entire, 2—4-lobed, persistent. *Stamens* 3—4 to 8. *Anthers* nearly sessile, introrse. *Ovarium* free, 1-celled, 1-seeded. *Style* short. *Stigma* simple. *Fruit* enclosed in the pulpy, persistent, enlarged tube of the perianth. *Albumen* thin or fleshy. *(G. Don.)*

Deciduous shrubs or low trees, natives of Europe and N. America; remarkable for the silvery and scaly hue of their foliage, for which they are cultivated. The scales are beautiful microscopic objects.

## ELÆAGNUS. The Elæagnus, Oleaster, *or*, Wild Olive Tree.

(*Lin. Syst.* Tetrandria Monogynia.)

Gen. Char.—*Calyx* 4—8 cleft, campanulate on the outside, rugose; inside coloured, deciduous. *Filaments* very short between the segments of the calyx. *Style* short. *Drupe* ovate, with an oblong 1-seeded nut. (*Lindl.*)

*Derivation.*—From *elœagros*, the wild olive; the tree having a striking resemblance to the olive tree. Oleaster is a Latin word, which is interpreted a wild olive tree; and perhaps is derived from *olea*, an olive tree, and *instar*, likeness.

A splendid genus of plants, with its new species lately introduced; E. reflexa, E. parvifolia, &c.

### 233. Elæagnus hortensis.

The Garden Elæagnus.

Spec. Char.—Leaves lanceolate, hoary all over with stars of hairs, as are the shoots of the current year.

Hab.—A large deciduous shrub or low tree. S. Europe.

Local.—

Descript—Height 15—20 ft. Introd. 1633. Leaves 2—3 in. long; upper surface whitish green, under very hoary. Flowers pale yellow, fragrant; May. Fruit red brown colour, like a date; ripe in Oct.

Obs.—The silvery whiteness of the foliage of this tree renders it a most conspicuous object in plantations; and hence, in any landscape where it is wished to attract the eye to a particular point, it may be usefully employed. It is called by the Portuguese the Tree of Paradise, from the fragrance of its blossoms, which are produced in

great abundance in May, and perfume the air for a considerable distance around. For this reason it is a most desirable tree for a lawn or shrubbery. The fruit is in great repute in the Levant, where it is made into preserves, and is also dried like pistachia nuts.

## HIPPOPHAE. The Sea Buckthorn, *or* Sallow-thorn.

(*Lin. Syst.* Diœcia Tetrandria.)

Gen. Char.—*Flowers* unisexual, diœcious. *Male flower: Calyx* arched. *Stamens* 4. *Female flower: Calyx* tubular, cloven, including the ovary, and becoming at length succulent. *Style* short. *Stigma* long. *Fruit* a polished achenium. (*G. Don.*)

*Derivation.*—From *hippos*, a horse, and *phao*, to brighten; the plant being given by the Greeks, as a medicine for horses, to make their coats sleek and shining.

Large shrubs, with grey silky foliage. The male and female blossoms on different plants, and the fruit a yellow berry.

### 234. Hippophae salicifolia.

The Willow-leaved Hippophae.

Spec. Char.—Thornless, upright, branched. Leaves lanceolate, obtuse, whitely tomentose, as are the branchlets.

Hab.—A large deciduous shrub or low tree. Nepal.

Local. Horticultural Garden.

Descript.—Height 15—20 ft. Introd. 1822. Flowers yellow; May. Berries bright orange-coloured; ripe in Sept.

Obs.—A singular and beautiful tree, having much the appearance of a Willow, particularly to that of the Salix viminalis. The aspect of this species is less white or silvery than that of H. Rhamnoides.

## SHEPHERDIA. The Shepherdia.

*(Lin. Syst.* Diœcia Octandria.)

Spec. Char.—*Flowers* unisexual, diœcious. *Male flower. Calyx* 4-cleft. *Stamens* 8, included within the calyx, alternate with 8-glands. *Female flower. Calyx* bell-shaped; its limb 4-parted, flat, the portions equal; its tube adnate to the ovary. *Style* 1. *Stigma* oblique. *(G. Don.)*

*Derivation.*—Named after W. Shepherd, late curator of the Botanic Garden, Liverpool.

### 235. Shepherdia argentea.

The silver-*leaved* Shepherdia.

Spec. Char.—Leaves oblong-ovate, obtuse; on both surfaces glabrous, and covered with silvery peltate scales. (*Pursh.*)

Hab.—A small tree. N. America.

Local.—

Descript.—Height 12—18 ft. Introd. 1818. Flowers yellow; April and May. Berries scarlet, diaphanous, acid; ripe in Sept.

Obs.—A splendid species resembling the *Elœagnus argentea.* In some parts of N. America it is cultivated as a fruit shrub. The fruit, which is produced in great abundance, is about the size of a currant, and said to be much richer to the taste. It forms one continued cluster on every branch and twig.

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## Order XLII. EUPHORBIACEÆ.

The Euphorbium, *or* Spurgewort Tribe.

Char.—*Flowers* unisexual. *Perianth* lobed or wanting. *Stamens* definite or indefinite, free or monadel-

phous. *Ovarium* superior, 2—3-celled. *Styles* equal in number to the cells. *Stigmas* many, distinct or combined. *Capsule* of 2—3, or more, 2-valved cells or cocci. *Seeds* solitary or in pairs, arillate, suspended. *Albumen* fleshy. *(G. Don.)*

Shrubs or small trees, natives of Europe and N. America. The plants of the order are generally acrid and poisonous, abounding in milky juice.

## BUXUS. The Box Tree.

*(Lin. Syst.* Monœcia Tetrandria.)

Gen. Char.—*Flowers* unisexual, monœcious. *Male: Calyx* of 4 minute leaves. *Stamens* 4. *Female: Flowers* singly, at the tip of groups of male ones. *Calyx* as in the male. *Styles* 3. *Stigmas* 3. *Fruit* a regma, leathery, beaked with the styles. *(G. Don.)*

*Derivation.*—From *puknos*, dense; in reference to the hardness and closeness of the wood; or, perhaps, to the denseness of the foliage. The Greeks called the boxes made of this wood, which were highly esteemed for their durability, *pyxides;* and hence, probably, arose the word *pyx*, which is used for the chest containing the Host in the Roman Catholic Church.

### 236. Buxus sempervirens.

The common Box Tree.

Spec. Char.—Leaves ovate. Petioles hairy at the edge. Anthers ovate, sagittate.

Hab.—A low evergreen tree, or shrub. England on chalky hills.

Local.—Frequent.

Descript.—Height 15—30 ft. Flowers whitish; April and May. Fruit greenish; ripe in Aug.

Obs.—The Box is a well-known and one of the most useful of evergreen shrubs, celebrated in gardening from the time of Pliny, more especially for edgings and topiary work. It is valuable also for growing under the shade and drip of trees. The wood, which is of a yellow colour, is of considerable value. It is sold by weight, and being very hard and smooth, and not apt to warp or split, is very well adapted to a variety of nicer works. It is as extensively employed now as it appears to have been in the days of Evelyn, "for the turner, engraver, carver, mathematical instrument maker, comb and pipe or flute maker; and the roots for the inlayer, and cabinet-maker. Of box are made wheels and shivers, pins, pegs for musical instruments, nut-crackers, button-moulds, weavers' shuttles, hollar-sticks, bump-sticks, and dressers for the shoemaker, rulers, rolling pins, pestles, mall-balls, beetles, tops, tables, chessmen, screws, bobbins for bone-lace, spoons, knife-handles, but especially combs." Virgil calls it,

"Smooth-grain'd, and proper for the turner's trade,
Which curious hands may carve, and steel with ease invade."

*Dryden's Virgil.*

There are several Varieties and Sub-varieties of Box; the following of which may be seen in the Park:—

Var. 1. *B. s. a. aurea.* Leaves ovate, variegated with a golden colour. Local.—Near the City Entrance. Frequent.

Var. 2. *B. s. angustifolia.* Leaves lanceolate, narrowed. Local.—Lower boundary.

Var. 3. *B. s. suffruticosa.* The dwarf Box. Leaves small, obovate. This is the kind usually cultivated for edgings in European gardens. Local.—Frequent.

## 237. Buxus balerica.

### The Minorca Box.

Spec. Char.—Disk of leaf oblong; footstalk glabrous. Anthers sagittate, linear. (*Willd.*)

Hab.—An evergreen tree. Minorca.

Local.—Eastern end of the Lower Lawn.

Descript.—Height 15—20 ft. Introd. 1780. Flowers yellowish green; July. Fruit greenish; ripe in Oct.

Obs.—A very handsome species, with leaves three times as large as the common box. It is imported from Constantinople in large quantities for the use of the wood-engravers. It is of more rapid growth, and coarser-grained than the common box.

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## Order XLIII. ARTOCARPEÆ.

### The Mulberry Tribe.

Char.—*Flowers* unisexual, in heads or catkins; perianth usually divided. *Stamens* solitary or several. *Ovarium* free, 1—2-celled. *Ovulum* orthotropous. *Style* 1. *Stigma* bifid. *Fruit* a sorosis. *Seeds* solitary. *Albumen* thin. *Radicle* superior. (*G. Don.*)

Deciduous trees, chiefly of the middle size; natives of Europe, Asia, and N. America. Some of them are valuable for their fruit, and others for their leaves.

### MORUS. The Mulberry Tree.

(*Lin. Syst.* Monœcia Tetrandria.)

Gen. Char.—*Flowers* unisexual, mostly monœcious, in some diœcious or polygamous. *Male flowers* in axillary spikes. *Calyx* of 4 equal sepals, imbricate in æstivation. *Stamens* 4. *Female flowers: Calyx* of 4 leaves, persistent, becoming pulpy and juicy. *Stamens* 2, long. (*G. Don.*)

*Derivation.*—Several derivations have been given for the word Morus; some suppose it to be taken from the Greek word *morea* or *moron*, signifying a mulberry or blackberry; others derive it from *mauros*, dark; and Sir J. E. Smith suggests that it may have been taken by antiphrasis from *moros*, foolish, the mulberry tree, from its slowness in putting out its leaves, being anciently considered the emblem of wisdom. The Morea in the Levant is said to be so called, from the resemblance of the shape of that peninsula to the leaf of a mulberry.

### 238. Morus nigra.

The black-*fruited or common* Mulberry.

Spec. Char.—Leaves cordate, ovate or lobed; unequally toothed, scabrous.

Hab.—A deciduous tree. Persia.

Local.—Near Brock St. entrance.

Descript.—Height 20—30 ft. Introd. 1548. Flowers greenish white; June. Fruit oblong, red or black; ripe in Sept.

Obs.—A very ornamental and useful tree, and one of great durability. It is much esteemed for its delicious fruit, which is eaten at the dessert, and is considered of a cooling, aperient nature when ripe. The leaves are also used for feeding the silkworm, but they are by no means so suitable as those of the white mulberry, though they are frequently substituted for them by amateurs, and hence the worms are often injured or lost. The tree is one of the latest in coming into leaf, and is taken as an index to the time for setting out green-house plants by many gardeners. Pliny observes, "Of all the cultivated trees, the mulberry is the last that buds, which it never does until the cold weather is past; and it is therefore called the wisest of trees. But, when it begins to put forth buds, it despatches the business in one night, and that, with so much force, that their breaking forth may be evidently heard."

Cowley describes the black mulberry, as being used in his time, both for its fruit and leaves:—

"But cautiously the mulberry did move,
And first the temper of the skies would prove,
What sign the sun was in, and if she might
Give credit yet to Winter's seeming flight:
She dares not venture on his first retreat,
Nor trusts her fruit and leaves to doubtful heat;
Her ready sap within her bark confines,
Till she of settled warmth has certain signs;
Then, making rich amends for the delay,
With sudden haste, she dons her green array:

In two short months, her purple fruit appears,
And of two lovers slain the tincture wears.
Her fruit is rich, but she doth leaves produce
Of far-surpassing worth and noble use."

*Cowley, on Plants*, Book 5.

### 239. Morus alba.

### The white-*fruited* Mulberry Tree.

Spec. Char.—Leaves deeply cordate, unequal at the base, ovate, lobed, unequally serrated, smoothish.

Hab.—A deciduous tree. China.

Local.—Eastern end of the Lower Lawn.

Descript.—Height 20—30 ft. Introd. 1596. Flowers greenish white; May. Fruit white or pale red; ripe in Sept.

Obs.—There are many varieties of this species. The white mulberry is readily distinguished from the black, even in winter, by its more numerous, slender, upright-growing, and white-barked shoots. "It is of much more rapid growth than M. *nigra*, and its leaves are not only less rough and more succulent, but they contain more of the glutinous milky substance resembling caoutchouc, which gives tenacity to the silk produced by the worms fed on them. This tree is a native of China, in which country the art of making silk appears to have been discovered 2700 B.C. From China this art passed into Persia and the whole of Asia; and the ancient Phœnicians carried it to the East of Europe. Silk was introduced into Rome about the time of Julius Cæsar. Heliogabalus, about A. D. 220, is said to have been the first emperor who wore a robe entirely of silk, which cost its weight in gold. Aurelian, in 280, is said to have denied his empress a robe of silk, because it was too dear. Through the persuasions of the emperor Justinian, two monks, engaged as missionaries, brought to Constantinople, in 555, some eggs of the silkworm, concealed in the hollow of their canes or pilgrim's staves, soon after which the culture of the silkworm became general in Greece. In 711, it was introduced into Spain, and soon afterwards into France and Germany. The first white mulberry tree was planted in France in the reign of

Charles VII.; and the first in England in the reign of James I., whose efforts to establish the rearing of silkworms in England were unsuccessful. In 1825, the British, Irish, and Colonial Silk Company made another attempt, but also failed." *Loudon.*

## BROUSSONETIA. The Broussonetia.

(*Lin. Syst.* Dicœcia Tetrandria.)

Gen. Char.—*Flowers* unisexual, dicœcious. *Male flowers* in pendulous, cylindrical catkins. *Calyx* shortly tubular, then 4-parted. *Stamens* 4, elastic. *Female flowers* in peduncled, axillary, upright, globular heads. *Calyx* tubular, its tip with 3—4 teeth. *Style* lateral. *Stigma* taper. *Fruit* club-shaped. *(G. Don.)*

*Derivation.*—Named in honour of P. N. V. Broussonet, a French naturalist, who wrote numerous works on natural history.

### 240. Broussonetia papyrifera. The Paper Mulberry.

Spec. Char.—Leaves 3—5 lobed, acuminate, serrated, scabrous.

Hab.—A deciduous low tree, or large shrub. Japan.

Local.—Border of the Lower Lawn, western end.

Descript.—Height 10—20 ft. Introd. 1751. Flowers greenish white; May. Fruit oblong, dark scarlet, and sweet, but rather insipid; ripe in August.

Obs.—A very singular tree, from the great variation in the form of its leaves, hardly two on the same plant being alike, and also from its flowers and fruit. In general aspect, it has the appearance of a mulberry, but it is less hardy than the species of that genus. In Japan, the branches of the current year are reduced to a pulp by bruising and boiling, and made into paper. Sometimes the mucilage obtained from boiled rice, or a species of mallow, is added to the pulp,

and hence the name of rice paper is sometimes given to this manufacture. The finest and whitest cloth, worn by the principal people at Otaheite and in the Sandwich Islands, is made of the bark of this tree.

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## Order XLIV. ULMACEÆ.

### The Elm Tribe.

Char.—*Flowers* pedicellate, hermaphrodite or polygamous, collected into loose small heads. *Perianth* free, 5-lobed. *Stamens* 5, opposite the lobes. *Ovarium* solitary. *Stigmas* 2. *Fruit* indehiscent, 2-celled, membranous, compressed, winged. *Seed* solitary in the cells, pendulous. *Albumen* 0. *(G. Don.)*

Timber and forest trees of the largest size, natives of Europe, Asia, and America. Bitter and astringent properties exist in the inner bark of the Elm.

### ULMUS. The Elm.

*(Lin. Syst.* Pentandria Digynia.)

Gen. Char.—*Flowers* in lateral groups, protruded before the leaves; bisexual; monœcious. *Calyx* reddish, distinct from the ovary, having 5 or 4—8 segments. *Stamens* as many as the segments. *Style* short or wanting. *Stigmas* 2, acuminate. *Fruit* a samara, with a membranous wing. *(G. Don.)*

*Derivation.*—Ulmus is supposed to be derived from the Saxon word *elm*, or *ulm*; a name which is applied, with very slight alterations, to this tree, in all the dialects of the Celtic tongue. Ulm is still one of the German names for the elm; and the city of Ulm is said to derive its name from the great number of elm trees that are growing near it. There are about forty places in England mentioned in the *Doomsday Book*, which take their names from that of the elm, such as Barn Elms, Nine Elms, &c.

The species are propagated by seeds, and the varieties by grafting.

"The Elm is remarkable for the aptitude of the different species to vary from seed; so much so, that it is extremely difficult to say, in this genus, which are species and which are varieties; or even to what species the varieties belong." It is thought that the U. campestris and U. montana are the only two species which are truly distinct; and that all the others may be referable to them, not excepting even the U. americana.

### 241. Ulmus campestris.

### The common *English*, or Field Elm.

Spec. Char.—Leaves doubly serrated, rough. Flowers nearly sessile, 4-cleft. Samara oblong, deeply cloven, glabrous. (*Smith.*)

Hab.—A large deciduous tree. Britain, in woods and hedges.

Local.—Near the City Entrance. Frequent.

Descript.—Height 60—80 ft. Flowers brownish; March and April. Samara yellow; ripe in May. Decaying leaves rich yellow. It produces an abundance of suckers from the roots.

Obs.—Linnæus confounded all our Elms under this species. The common English Elm is a tall elegant tree, and, perhaps, more frequently to be found in the parks and pleasure-grounds of the English nobility and gentry than any other tree, except the oak. As its timber is remarkably durable in water, it is used in ship-building for keels; and for piles, pumps, water-pipes, troughs, and other similar purposes. It is also much used for making coffins about London, on account of its rapid decay under ground.

From its frequency in Norfolk it is often called the Norfolk Elm.

Var. 1. *U. c. vulgaris* is more irregular in its growth than the species and very twiggy, with a pale smooth bark. The branches are almost horizontal, where no others are near to force the shoots upwards. It is the commonest kind or variety of the species or typical form met with, and is something intermediate between it and the U. montana. Local.—Frequent.

Var. 2. *U. c. cornubiensis, or U. stricta.* The Cornish Elm, or upright-growing Field Elm. An upright-branched tree, with small, strongly-veined, coriaceous leaves, and hairy axillæ. Local.—Royal Avenue and by the Stone Yard.

Var. 3. *U. c. sarniensis.* The Jersey Elm. The foliage resembles the Cornish, to which it is closely allied, but the branches are more upright growing, compact and fastigiate. The leaves are also large and variable in size. Local.—Royal Avenue, and by the Donkey stand. A graceful and handsome tree, often mistaken for the Cornish Elm.

Var. 4. *U. c. foliis variegatis.* The variegated-leaved common English Elm. Local.—Lawn facing the City Entrance, and Upper and Lower boundary. Very ornamental.

Var. 5. *U. c. viminalis.* The Twiggy Field Elm. A desirable and beautiful variety, as well as the following. Local.—

Var. 6. *U. c. viminalis variegata.* The variegated twiggy Field Elm. Local.—

Var. 7. *U. c. concavæfolia.* The concave-leaved Field Elm.

Frequently mistaken and sold in the Nurseries for the *U. montana crispa*, though there is a wide difference between them. Local.—Royal Avenue, Roadside between the Obelisk and Pond, and Upper boundary. A very ornamental and beautiful variety.

## 242. Ulmus (c.) suberosa.

### The Cork-*barked* Elm.

Spec. Char.—Leaves pointed, rough, doubly and sharply serrated. Flowers stalked, 4—5-cleft. Samara almost orbicular, deeply cloven, glabrous. Branches spreading; their bark corky. (*Smith.*)

Hab.—A deciduous tree, taller and more spreading than the common English elm. Britain, in hedges.

Local.—By the Farm House, and road-side midway between the Obelisk and Pond.

Descript.—Height 60—80 ft. Flowers and samara

as in the preceding, U. campestris. A very variable species like all its kindred.

Obs.—This is often called the Dutch-Elm. Its timber is considered much inferior to the *U. Campestris.* It varies considerably in the character of its corky bark, upon the young branches; sometimes being deeply furrowed, and sometimes much less so, or even scarcely apparent. It also varies much in the character of its head and branches; being sometimes low, loose, and spreading; and at other times tall and narrow, constituting several varieties.

### 243. Ulmus effusa.

### The spreading-*branched* Elm.

Spec. Char.—Leaves smooth on the upper side; unequal at the base, doubly serrated. Flowers on drooping stalks. Stamens 6—8. Samara elliptic, deeply cloven, strongly fringed with coarse dense hairs. *(Smith.)*

Hab.—A deciduous tree with ascending shoots, which spread at the extremities. S. France.

Local.—

Descript.—Height 50—60 ft. Introd. 1800.

Obs.—An ornamental tree worth cultivating for the beauty of its foliage and general appearance.

### 244. Ulmus montana.

### The Mountain, *Scotch, or Wych* Elm.

Spec. Char.—Leaves pointed, rough, broad, and doubly serrated. Flowers on longish peduncles loosely tufted, 5—6-cleft. Samara somewhat orbicular, slightly cloven, naked. Branches drooping at their extremities; their bark smooth and even. *(Smith.)*

HAB.—A spreading deciduous tree. Britain, in woods and hedges. The most common Elm in Scotland.

LOCAL.—Royal avenue and Lawn near the Obelisk.

DESCRIPT.—Height 50—60 ft. Flowers reddish; April and May. Samara brown; ripe in May or June, when it is very conspicuous from its large hop-like fruit. Its bark is smooth, and it does not produce suckers like the English Elm.

OBS.—A very ornamental tree and well adapted for a lawn, from its drooping and fan-like spread of the branches, giving it altogether a most graceful appearance. Its timber has long been considered as next in value to that of the oak. It is used by the ship-builder, the boat-builder, the block and pump-maker, the cartwright, the cabinet-maker, and the coachmaker, &c. It is much used also in British nurseries as a stock, for the different sorts of English and American elms. In short, it is not only one of the most useful and valuable of trees, but it is one of the most beautiful in our British sylva. There are many varieties of this species, which are considered very distinct and handsome trees. The following Varieties are seen in the Park:—

VAR. 1. *U. m. vulgaris.* A spreading tree with somewhat smaller leaves, and of a lighter green than the species. LOCAL.—Roadside near the Pond.

VAR. 2. *U. m. rugosa.* The rugose Scotch Elm. A spreading and moderate-sized tree, with rather irregular and contorted branches. The leaves have a rugose appearance, and are much smaller and rougher than the species, and also of a deeper green. LOCAL.—Royal Avenue, last but one at the Western end; and at the Southern boundary in the second division of the Park.

VAR. 3. *U. m. cebennensis.* The Cevennes Elm. A small tree of spreading and rather drooping habit, and very twiggy. LOCAL.—Corner of the Lawn near the Stone Yard. A scarce tree, although very ornamental.

VAR. 4. *U. m. nigra.* The black Irish Elm. A spreading tree with the habit of the U. montana vulgaris, but with much smaller leaves. LOCAL.—Royal Avenue and opposite the Pond.

VAR. 5. *U. m. pendula.* The pendulous-branched or Weeping Scotch Elm. A very singular and beautiful tree, from the horizontal

and pendulous tendency of its branches, which spread in a fan-like manner, conspicuously displaying itself to the spectator at a considerable distance. Local.—Lawn near the Obelisk, and also near the Stone Yard. Very ornamental.

Var. 6. *U. m. pendula variegata.* The variegated-leaved Weeping Scotch Elm. Local.—Upper Lawn. A most beautiful and highly ornamental tree.

Var. 7. *U. m. fastigiata.* The Exeter, or Ford's Elm. Local.—Eastern side of the Pond, on the bank.

Var. 8. *U. m. crispa.* The curled-leaved Wych Elm. Generally of a slender and stunted habit of growth. Vide U. campestris concavæfolia. Local.—

### 245. Ulmus (m.) glabra.

### The smooth-*leaved, or Wych* Elm.

Spec. Char.—Leaves elliptic-oblong, doubly-serrated, smooth. Flowers nearly sessile, 5-cleft. Samara obovate, naked, deeply cloven. *(Smith.)*

Hab.—A tall, elegant, deciduous tree. Britain, in woods and hedges.

Local.—Third tree South side in the Royal Avenue, from the Eastern end.

Descript.—Height 60—80 ft. Flowers and samara as in the preceding sort. The branches are spreading, and rather drooping, of a smooth bright brown colour.

Obs.—From its frequency in some parts of Essex, it is often called the Essex Elm. A very fine, ornamental, and beautiful tree.

The following varieties are seen in the Park.

Var. 1. *U. (m.) glabra vegeta.* The Huntingdon or Chichester Elm. Local.—At the R. V. P. Gate entrance; Roadside at the New Carriage entrance, and each side of the Pathway opposite through the Common. A most valuable tree, from its rapid and upright growth, the quality of its timber, and beautiful foliage. It is also further valuable for the earliness and lateness of its leaves, to be planted in Parks and public pleasure grounds.

VAR 2. *U.* (*m.*) *glabra microphylla.* The Scampston Elm. Differing principally from the preceding variety by the smaller leaves and tapering head. LOCAL.—Hort. Garden in the hedge, by the roadside facing the Lower Dell.

VAR. 3. *U.* (*m.*) *glabra microphylla pendula.* A weeping variety of the Scampston Elm. LOCAL.—Top of the inclined walk, Lower Dell.

VAR. 4. *U.* (*m.*) *glabra major.* The greater, smooth, or Canterbury Seedling. More spreading in its habit and smaller leaf than the Huntingdon Elm, but a rival to the latter in quickness of growth. It is liable from the similarity of its appearance to the Huntingdon to be mistaken for it. LOCAL.—Royal Avenue, and midway between the Obelisk and Pond.

VAR. 5. *U.* (*m.*) *glabra latifolia.* Leaves oblong, acute and very broad. LOCAL.—At the Eastern end of the pathway in the Common, leading from Marlborough Buildings.

VAR. 6. *U.* (*m*) *glabra pendula.* The Downton Elm. A beautiful weeping variety, differing chiefly in the larger size of its leaf from the pendulous variety of the Scampston Elm. LOCAL.—

## 246. ULMUS AMERICANA.

### The American Elm.

SPEC. CHAR.—Leaves nearly doubly serrated, unequal at the base. Axils of the veins beneath, united by a membrane. Flowers peduncled, with 5—8 stamens. Samara villous at the edge. (*Lindl.*)

HAB.—A large tree. N. America.

LOCAL.—

DESCRIPT.—Height 80—100 ft. Introd. 1752. Leaves broad, deeply green above, almost glossy, rough; beneath pale, downy. Young branches brown, with short very fine hairs.

OBS.—A fine tree, and with the following, rare in collections.

### 247. Ulmus (a.) fulva.

The tawny-*budded, or slippery,* Elm.

Spec. Char. — Leaves ovate-oblong, acuminate, nearly equal at the base; serrate with unequal teeth, very rough, hairy on both surfaces. Axils of the veins bearded beneath. Leaf buds tomentose, with a tawny dense tomentum. (*Michx.*)

Hab.—A deciduous tree, bearing a strong resemblance to the Dutch Elm. N. America.

Local.—Western side of the Pond.

Descript.—Height 50—60 ft. Introd.—uncertain. Branches rough and whitish. Flowers with short peduncles, effuse, purple. Stamens 5—7. Samara not fringed, and when young downy on both sides.

Obs.—"Distinguished from the white American Elm by its buds, which are larger and rounder; and which, a fortnight before their development, are covered with a russet down. It is called Slippery Elm, from the leaves and bark of the branches when macerated in water, yielding a thick and abundant mucilage, which is used as a refreshing drink for colds, and for emollient plasters, in the place of the marsh mallow root, which does not grow in the United States."

Var. 1. *U. (a.) fulva macrophylla;* has large, oblong, rough, light green, hairy, leaves. Local.—Lawn near the Stone yard. A fine tree with beautiful foliage.

## CELTIS. The Celtis *or* Nettle Tree.

*(Lin. Syst.* Polygamia Monœcia.)

Gen. Char.—*Flowers* bisexual, monœcious. *Calyx* campanulate, 5—6 parted, imbricate in æstivation. *Stamens* 5—6, inserted into the base of the calyx. *Filaments* incurved. *Anthers* cordate, acuminate. *Stigmas* 2, sessile. *Fruit* a drupe, sub-globose. (*G. Don.*)

*Derivation.*—The name of Celtis is said to refer to the tree having been known to the ancient Celts; and the appellation of Nettle Tree relates to the similarity of the leaves to those of some kind of nettle.

Deciduous trees, with numerous branches; natives of Europe, Asia, and N. America.

### 248. Celtis occidentalis.
### The American Nettle Tree.

Spec. Char.—Leaves ovate, acuminate, serrated, unequal at the base, rough above, and hairy beneath.

Hab.—A deciduous tree. N. America.

Local.—Eastern end of the border, Lower Lawn.

Descript.—Height 30—50 ft. Introd. 1656. Flowers small, greenish; May. Fruit purplish; ripe in Oct. The leaves die off a bright yellow.

Obs.—Very hardy and ornamental; and it possesses the property of keeping on all its leaves very late, and then, like the other species, dropping them all at once, so that they may be swept away at one time for litter.

## Order XLV. JUGLANDACEÆ.
## The Walnut Tribe.

Char.—*Flowers* unisexual. *Male flowers* amentaceous. *Stamens* hypogynous, indefinite. *Anthers* innate. *Female flowers* having a double or single perianth, which adheres to the ovarium. *Ovarium* 1-celled, ovule erect. *Styles* 1—2, or wanting. *Drupe* fleshy, containing a 1-celled, 2—4-valved, ragged nut. *Embryo* with cerebriform convolutions, more or less 4-lobed, covered by a membranous testa. (*G. Don.*)

Large deciduous trees, with compound leaves, producing edible fruit; natives of Asia and N. America;

propagated by seeds. Purgative properties are found in some of the species.

## JUGLANS. The Walnut Tree.

*(Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—*Flowers* unisexual, monœcious. *Male flowers* in cylindrical, drooping, solitary catkins. *Calyx* of 5—6 scales. *Stamens* 18—36. *Female flowers* solitary or a few in a group, terminal upon a shoot developed in the same year. *Calyx* ovate, including and adhering to the ovary. *Petals* 4. *Stigmas* 2—3, fleshy. *Fruit* a drupe. *Covering* of the nut a fleshy husk of one piece that bursts irregularly. *Nut* woody, of 2 valves. *(G. Don.)*

*Derivation.*—Juglans is contracted from *Jovis*, Jove's, and *glans*, a mast, or acorn; and was applied by the Roman writers to this tree, on account of the excellence of its fruit as food, compared with other masts or acorns; the only species that was known to the Romans having been the Juglans regia, or common walnut tree.

### 249. Juglans regia.

The royal, *or common*, Walnut Tree.

Spec. Char.—Leaflets about 9, oval, glabrous, subserrated. Fruit globose, situated upon a short inflexible peduncle.

Hab.—A large, deciduous tree. Persia.

Local.—Eastern end of the border, Lower lawn.

Descript.—Height 40—60 feet. Introd. 1562. Flowers greenish; April and May. Fruit with a green husk, enclosing a brown nut; ripe in Sept. Decaying leaves brown.

Obs.—The Walnut tree is very valuable, both on account of its fruit and timber. The fruit when ripe is in great demand for the table, and in a green state, before the nut hardens, is much used for pickling, and also as an adulteration of soy sauce. An oil, which supplies the place of that of almonds, is expressed from the kernels in France. The timber is used in this country for gun stocks, and for musical instruments, turnery, and toy-making.

The following beautiful lines, by Cowley, are very characteristic and descriptive of many of its properties:—

"The walnut then approached, more large and tall,
Her fruit, which we a nut, the gods an acorn call:
Jove's acorn, which does no small praise confess,
I 've called it man's ambrosia had been less;
Nor can this head-like nut, shaped like the brain,
Within, be said that form by change to gain,
Or Caryon called by learned Greeks in vain:
For membranes soft as silk her kernel bind,
Whereof the inmost is of tenderest kind,
Like those which on the brain of man we find,
All which are in a seam-joined shell enclosed,
Which of this brain the skull may be supposed.
This very skull enveloped is again
In a green coat, her perieranium.
Lastly, that no objection may remain,
To thwart her near alliance with the brain,
She nourishes the hair, remembering how
Herself deformed, without her leaves does show,
On barren scalps, she makes fresh honours grow.
Her timber is for various uses good;
The carver she supplies with useful wood.
She makes the painter's fading colours last;
A table she affords us, and repast;
E'en while we feast, her oil our lamp supplies;
The rankest poison, by her virtues dies,
The mad dog's foam, and taint of raging skies.
The Pontic king, who lived where poisons grew,
Skilful in antidotes, her virtue knew.
Yet envious fates, that still with merit strive,
And man, ungrateful, from the orchard drive

This sovereign plant; excluded from the field,
Unless some useless nook a station yield,
Defenceless in the common road she stands,
Exposed to restless war of vulgar hands;
By neighbouring clowns, and passing rabble torn,
Batter'd with stones by boys, and left forlorn.

*Cowley's Plants*, Book iv.

### 250. Juglans nigra.

### The black-*wooded* Walnut Tree.

Spec. Char.—Leaflets numerous, 13—17; lanceolate, serrated, and somewhat downy. Fruit globose, dotted, rough.

Hab.—A large deciduous tree. N. America.

Local.—Roadside between the Obelisk and Pond.

Descript.—Height 60—100 ft. Introd. 1656. Flowers greenish; April and May. Fruit with a green husk, enclosing a brown nut.

Obs.—A fine and beautiful tree of rapid growth. The heart-wood, which is black, remains sound for a long period, when exposed to heat and moisture; but the sap-wood speedily decays. When properly seasoned, the wood is strong, tough, and not liable to warp or split. It is never attacked by worms, and has a grain sufficiently fine and compact to admit of a beautiful polish. In Philadelphia, the coffins are invariably made of this tree, which lasts in the ground undecayed for many years; about London, coffins are commonly made of the elm, on account of its rapid decay under ground.

## Order XLVI. SALICACEÆ.

### The Willow Tribe.

Char.—*Flowers* unisexual, amentaceous. *Male flowers* disposed in cylindrical catkins, with a small gland

like perianth, and from 2—30 stamens. *Female flowers* disposed in dense ovate or cylindrical catkins, each with a free simple perianth. *Ovarium* superior. *Style* 1. *Stigmas* 2, often bifid. *Capsule* 1-celled, 2-valved, many-seeded. *Seeds* small, pendulous, downy. *Albumen* none. (*G. Don.*)

Deciduous trees and shrubs; mostly natives of Europe in moist soils, but also found in America and Asia. The genera are Salix and Populus. The plants of this order are useful timber trees, and they are employed for various economical purposes. Their bark is tonic and astringent. The downy matter surrounding the seeds is used for stuffing cushions and for making paper. The bark of many species of Salix contains a bitter tonic principle called *Salicine*.

## SALIX. The Willow.

(*Lin. Syst.* Diœcia Diandria.)

Gen. Char.—*Bractea* to the flower of each sex entire. *Male flower* consisting of 1—5 stamens, more in a few species, and of one or more glands inserted contiguously to the stamens. *Female flower* consisting of a pistil that is stalked or sessile, and one or more glands inserted contiguously to it. (*G. Don.*)

*Derivation.*—From *sal*, near, and *lis*, water, *Celtic;* in reference to its general habitat. According to others, from *salire*, to leap; on account of the extraordinary rapidity of its growth.

A most difficult genus or family of plants to investigate, from the variable character of the species and the slight differences upon which they depend. being so much alike, that it is only by a juxtaposition in a living state that they can with any degree of accuracy be determined.

### 251. Salix purpurea.

### The purple Willow.

Spec. Char.—Branches trailing, decumbent. Leaves partly opposite, obovate-lanceolate, serrated, very smooth, narrow at the base. Stamen 1. Stigmas very short, ovate, nearly sessile. *(Smith.)*

Hab.—A shrub. Britain, in marshy places.

Local.—

Descript.—Height 3—5 feet. Flowers yellow; March and April; earlier than the foliage.

Obs.—A useful and elegant willow, and a very valuable osier for fine basket-work, &c. The branches are long and slender, spreading widely, and, if not supported, trailing on the ground, very smooth, of a rich and shining purple, with a somewhat glaucous hue.

Var. 1. *S. purpurea pendula.* Local.—At the western end of the pond by the Babylonian willow. Under this name or variety of the above species, I have included the Salix *americana pendula*, as it is evident from the following statement of Mr. Rivers, nurseryman, Sawbridge, Herts., who introduced it, and who was written to upon the subject for information, that Salix *americana pendula* as heretofore called, is a misnomer; it being a British plant, and not an American; and that Salix *purpurea pendula* would be the most correct name, and which I have here ventured to give it.

"I think it must be some 15 or 18 years since, that on seeing in the catalogue of Simon Louis Frères, nurseryman, of Metz, a willow under the name of Salix *americana pendula*, and also a Salix *nigra americana* (both proved the same), I imported some young trees, and found it a prostrate growing species, apparently allied to S. *purpurea*. Loudon who at that time paid me a visit saw it for the first time and thought it a variety of S. *purpurea*, and Mr. Gordon, who is at present the head of the plant department at Chiswick, still I believe, thinks it to be a variety of that species. I received dwarf plants from Metz, and observing it creeping on the ground, the idea struck me that grafting it on a stem would make it very ornamental; it baffled me for two or three years, for it would not grow on some varieties of Salix *viminalis*

which I thought its congeners. I then, half in despair, budded it on a broad-leaved variety of the Sallow, (S. *caprea*) the buds grew wonderfully, and the first year the ends of the shoots reached the ground from a height of 7 feet. These were the trees which the late Mr. Loudon saw, and I shall never forget his raptures; he declared it to be the most elegant tree he had ever seen: and the late Mr. Downing, of America, (the Loudon of America,) was equally delighted with the specimen on my lawn, which is now a fine tree, and one of the oldest in the country; *but he had never seen it in America.* I have sent it to most of the American nurserymen, and it is now common there, but is always reckoned an alien.

"Nurseries, Sawbridgeworth, Herts.

"August 29th, 1855."

### 252. Salix triandra.

### The long-leaved *triandrous* Willow.

Spec. Char.—Leaves linear-oblong, serrated, glabrous; rather unequally sloping at the base. Stamens 3. Ovary stalked, ovate, compressed, glabrous. Stigmas nearly sessile. (*Smith.*)

Hab.—An upright tree. Britain, in marshy places.

Local.—Upper Dell.

Descript.—Height 20—30 ft. Flowers yellow; May.

Obs.—This species is extensively cultivated for the long, tough rods which it produces when cut down, which are in frequent use for wickerwork, hoops, white basket-work, &c. The value of willow-bushes near hives is great, as affording nourishment from their numerous catkins to bees very early in the season, when few flowers besides are in bloom, and at that period when the combs are likely to be exhausted; therefore they may be cultivated to an advantage near an apiary.

### 253. Salix pentandra.

### The Sweet Bay-leaved Willow.

Spec. Char.—Leaves ovate, pointed, crenate, glandular, glabrous. Footstalks glandular at the summit.

Stamens 5 or more, hairy at the base. Ovary ovate, tapering, smooth, nearly sessile. (*Smith.*)

Hab.—An upright tree. Britain, about rivers.

Local.—Upper Dell. (A fine specimen of this species may be seen with other willows, at the Lansdown Cemetery.)

Descript.—Height 18—20 ft. Flowers yellow: June.

Obs.—The flowers are remarkably fragrant, as are the leaves, especially when bruised: the fragrance which is similar to that of the sweet bay (*Laurus nobilis*), but less powerful, is exuded from the resinous crenatures of the leaves, and from the barren catkins. It is easily distinguished, by its large glossy leaves, more like those of the Portugal Laurel than of the other willows. It is one of the most desirable species of the genus for planting in pleasure grounds, on account of the fine display made by the blossoms, their profusion, their abundant fragrance, the smooth, shining, rich deep green of the leaves, and the comparatively slow growth and compact habit of the tree.

### 254. Salix babylonica.

### The Weeping Willow.

Spec. Char.—Leaves lanceolate, acuminate, finely serrated, glabrous; glaucous beneath. Catkins protruded at the same time as the leaves. Ovary ovate, sessile, glabrous. (*Willd.*)

Hab.—A pendulous-branched tree. Asia, on the banks of the Euphrates, near Babylon, whence its name.

Local.—By the Pond; over which it hangs its streaming foliage,

"————and dips
Its pendent boughs, stooping as if to drink."

Descript.—Height 30—50 ft. Introd. 1692. Flowers greenish yellow; May.

Obs.—A well-known ornamental and picturesque tree in universal cultivation. The weeping willow is employed by the Chinese, both in their gardens and in their cemetries. It is also employed throughout Turkey, and great part of the West of Asia, in burial grounds, and it is much used for the same purpose in France and Germany. The reason why it is now preferred to the cypress, in France, is thus given by the botanist Poiret. "The cypress was long considered as the appropriate ornament of the cemetery; but its gloomy shade among the tombs, and its thick heavy foliage of the darkest green, inspire only depressing thoughts, and present death under its most appalling image. The weeping willow, on the contrary, rather conveys a picture of the grief felt for the loss of the departed, than of the darkness of the grave. Its light and elegant foliage flows like the dishevelled hair and graceful drapery of a sculptured mourner over a sepulchral urn; and conveys those soothing, though softly melancholy, reflections, which have made one of our Poets exclaim, 'There is a pleasure even in grief.'" It was under weeping willows that the Children of Israel mourned their Babylonish captivity.

Var. 1. *S. b. crispa.* The ringed, or curled-leaved, Weeping Willow. Local.—Bottom of the Hort. Gard. A very singular and beautiful variety.

### 255. Salix Russelliana.

### The Bedford Willow.

Spec. Char.—Leaves lanceolate, tapering at each end, strongly serrated, glabrous. Footstalks glandular or leafy. Ovary tapering, stalked, longer than the bracteas. Style as long as the stigmas. (*Smith.*)

Hab.—A large handsome tree. Britain, in marshy woods.

Local.—Bank side near the Entrance to the R. V. Park Gate.

Descript.—Height 40—90 ft. Flowers yellowish; April and May.

Obs.—The branches are long, straight, and slender, not angular or obliquely set in their insertion like those of S. *fragilis;* and the trees of both species, when stripped of their leaves, may be distinguished respectively by these marks.

The timber of this species is considered as the most valuable of any of the willow tribe. Its bark contains the tanning principle in a superior degree to that of the oak; and it is supposed that the medical properties stated to belong to *S. fragilis* are attributed to it by mistake, and should be referred to *S. Russelliana.* The bark, according to Sir J. E. Smith, has been found useful as a substitute for cinchona in agues, from *salicine* being found most abundant in it.

### 256. Salis viminalis.

### The common Osier.

Spec. Char.—Leaves linear, inclining to lanceolate, elongated, taper-pointed, entire, wavy; snow-white and silky beneath. Branches straight and slender. Ovary sessile. Style as long as the linear undivided stigmas. (*Smith.*)

Hab.—A large shrub or low bushy tree. England, in wet meadows.

Local.—Upper Dell.

Descript.—Height 10—20 ft. Flowers yellow; April and May. The branches are straight, erect, wand-like, very long and slender, round, polished; when young, downy, with fine silky hairs. The satiny under surface of the leaves readily distinguish it.

Obs.—The species of Salix which are used for basket-making are usually called Osiers. Those which are best adapted for the purpose are the present species and the S. *triandra.*

The value of the Common Osier, for various kinds of basket-work, is universally known. It is more generally cultivated than any other for basket-work and hoops.

### 257. Salix cinerea.

The grey Sallow.

Spec. Char.—Stem erect. Lower leaves entire; upper serrated, obovate, lanceolate; glaucous, downy, and reticulated with veins beneath. Stipules half-heart-shaped, serrated. Ovary silky; its stalk half as long as the lanceolate bracteas. (*Smith.*)

Hab.—A shrub or middle-sized tree. Britain, in moist woods and hedges.

Local.—Hedge Lower Dell, Park-lane side.

Descript.—Height 20—30 ft. The branches are smooth, reddish-brown, crooked; the young ones slender, spreading, and, in an early state, downy. Flowers yellow; April, and again in Sept.

Obs.—According to Sir J. E. Smith, the present species is the least useful of the sallows; but its branches, when two years old, are used for bands and coarse wicker-work. This species, and the S. caprea are said to be the best for the manufacture of gunpowder charcoal.

### 258. Salix caprea.

The great round-leaved Sallow.

Spec. Char.—Stem erect. Leaves roundish-ovate, pointed, serrated, waved; pale and downy beneath. Stipules somewhat crescent-shaped. Catkins oval. Ovary stalked, ovate, silky. Stigmas nearly sessile, undivided. Capsules swelling. (*Smith.*)

Hab.—A moderate-sized tree. Britain, in woods and hedges.

Local.—

DESCRIPT.—Height 15—30 ft. Flowers yellow, very showy; April and May. The branches are spreading, round, brown or purplish, minutely downy when young.

OBS.—The flowering branches of this species are called palms, and are gathered by children on Easter Sunday; the relics of the Catholic ceremony formerly performed in commemoration of the entry of our Saviour into Jerusalem. The name *caprea* seems to have originated in the reputed fondness of goats for the *catkins*, as exemplified in the wooden cut of the venerable Tragus, their namesake; and hence it is also called the Goat's Willow. It is a valuable species. The bark serves the Highlander for tanning. The wood is used for handles of hatchets, spades, &c., and for the cutting-boards of shoemakers. The wood and branches also make the best hurdles, being tough, flexible and durable, and the bark has been found no bad substitute for the *cinchona*, in agues.

VAR 1. *S. c. pendula.* The weeping Goat Willow, *or great round-leaved Sallow.* LOCAL.—Border of the Lower Lawn.

## POPULUS. THE POPLAR.

*(Lin. Syst.* Diœcia Octandria.)

GEN. CHAR.—Bractea to the flower of each sex laciniated in its terminal edge. *Male flower* consisting of a calyx, and 8 stamens at fewest; in many instances many more. *Female flower* consisting of a calyx and a pistil. *(G. Don.)*

*Derivation.*—Some suppose the word Populus to be derived from *pallo*, or *paipallo*, to vibrate or shake; others, that the tree obtained its name from its being used, in ancient times, to decorate the public places in Rome; where it was called *arbor populi*, or the tree of the people. Bullet derives the name also from *populus*, but says that it alludes to the leaves being easily agitated, like the people.

Trees mostly of large size, generally with heart-shaped leaves, which have a tremulous motion in the slightest breeze, owing to the great length of the petioles in proportion to the size and weight of the leaves to which they are attached.

### 259. Populus alba.

The white Poplar, *or Abele Tree.*

Spec. Char.—Leaves cordate, lobed and toothed; snow-white, and densely downy beneath. Catkins of of the female plant ovate. Stigmas 4.

Hab.—A large tree. Britain, in moist woods.

Local.—

Descript.—Height 80—90 ft. The leaves vary much in form, and on young branches are almost palmate. Flowers dark brown; March. Seed ripe; May. Decaying leaves dark brown.

Obs.—P. alba is one of the most valuable of the British species. The wood is white, soft, tough, and of a close grain, serving chiefly for coarse purposes. Its long brown catkins are produced in great abundance, and are very ornamental.

### 260. Populus (a.) canescens.

The grey, *or common white,* Poplar.

Spec. Char. — Leaves roundish, angular-repand, toothed; hoary and downy beneath. Fertile catkins cylindrical lax. Stigmas 8.

Hab.—A tall tree. England in watery places.

Local.—Upper boundary, by the railing.

Descript.—Height 80—100 ft. Flowers or catkins, cylindrical, pendulous, about 2 inches long; March and April.

Obs.—A tall and handsome tree, with more upright and compact branches than the preceding, the bark smooth, of a beautiful grey silvery hue. Its wood is very white and light, and on that account is preferred to make the boards and rollers around which pieces of silk are rolled in shops and merchants' warehouses. It makes beautiful floors and turners' ware, and is also excellent for forming packing cases, because nails may be driven into it without its splitting.

### 261. Populus tremula.

The trembling-*leaved* Poplar, *or Aspen.*

Spec. Char. — Leaves nearly orbicular, broadly toothed, glabrous on both sides. Petioles compressed. Stigmas 4, erect, auricled at the base.

Hab.—A large tree. Britain, in moist woods.

Local.—Horticultural Garden.

Descript.—Height 50—70 feet. Flowers brown; March and April. Seeds ripe; May. Decaying leaves dark brown or black.

Obs.—The footstalks being vertically compressed in this species, counteract the ordinary undulating motion of the leaves in the wind, and cause them to quiver with the slightest breeze; whence the name; and the proverbial "trembling of an aspen leaf." This peculiarity has obtained for it the unenviable distinction of being selected as the poetical emblem of restlessness, inconstancy, and fear. On the other hand in a state of perfect rest, it furnishes a beautiful natural emblem of a summer calm. It is a lofty, round headed tree, of rapid growth, with a straight clean trunk, and a smooth bark, which becomes grey, and cracks with age. The wood is extremely light, white, smooth, soft, and durable in the air. It is employed by turners; by coopers, for herring casks, milk-pails, &c; by sculptors and engravers; and by joiners and cabinet-makers; and for various minor uses, such as clogs, butchers' trays, pack-saddles, &c. The bark is the favorite food of beavers.

### 262. Populus monilifera.

The *black Italian* Poplar.

Spec. Char.—Shoot more or less angular. Branch round. Petiole slender, compressed in the upper part. Leaves sub-cordate, smooth, glandular at the base; serrated, carlilaginous, hooked and hairy. Nerves spreading.

HAB.—A lofty tree. Canada.

LOCAL.—Southern boundary.

DESCRIPT.—Height 60—120 ft. Introd. 1772. Flowers in April, and ripens its seeds about the middle of May. Decaying leaves greenish yellow, or rich yellow.

OBS.—The most rapid growing of all the poplars, with a remarkably straight stem. It is also called the Necklace-bearing Poplar, from the shape of the female catkins, which, in their capsules, and the manner in which these are attached to the rachis, resemble strings of beads. The wood is equal, if not superior to any other species of the genus. It is the latest of its kind in coming into leaf.

### 263. POPULUS FASTIGIATA.

The fastigiate, *or Lombardy*, Poplar.

SPEC. CHAR.—Petiole compressed. Leaf deltoid, broader than long, crenulated in the whole of the edge, even the base; glabrous upon both surfaces.

HAB.—A fastigiate tree. Italy.

LOCAL.—Bank side, Upper Dell.

DESCRIPT.—Height 100—150 ft. Introd. 1758. Flowers red, March and April. Decaying leaves yellow.

OBS.—The Lombardy poplar is the most common in cultivation, and is readily distinguished from all other trees of this genus by its tall, narrow, cypress form, and by the total absence of horizontal branches. Hence its utility in planting among houses in towns and villages; from the little space occupied by its branches, which are compressed about the trunk, so as not to interfere with the walls, nor to obstruct the access of light to the windows. It becomes of great importance in scenery when contrasted with round-headed trees in ornamental plantations, by breaking the regularity or monotony of their horizontal lines, and add much to the picturesque effect of the landscape.

### 264. Populus balsamifera.

The Balsam-bearing Poplar, *or Tacamahac Tree.*

Spec. Char.—Leaves ovate, acuminate, with close serratures, white and netted beneath. Buds resinous.

Hab.—A tree of the middle size. N. America.

Local.—Near the commencement of the Subscription Walk.

Descript.—Height 40—50 ft. Introd. 1692. Flowers purplish; March and April. Decaying leaves brown and black.

Obs.—The earliest tree except the elder, that comes into leaf. Its foliage is of a rich gamboge yellow, and so fragrant as in moist evenings to perfume the surrounding air. It is said that grouse and other birds feeding on the buds during winter, acquire a flavor which is much esteemed by epicures.

### 265. Populus candicans.

The heart-leaved, *or Ontario* Poplar.

Spec. Char.—Leaves cordate, ovate, acuminate; bluntly and unequally serrated, white beneath, 3-nerved, netted. Buds resinous.

Hab.—A tree. N. America.

Local.—Near the Hand-gate leading to the Upper Bristol Road from the Obelisk.

Descript.—Height 50—60 ft. Introd. 1772. Flowers purplish; March. Decaying leaves brownish.

Obs.—The Ontario poplar very much resembles the Balsam poplar in general appearance, but it differs in having very large heart-shaped leaves, which principally distinguish it. The buds are covered with the same balsamic substance, and the leaves are of the same fine yellow colour in spring, though they come out a fortnight later. In America it is called the Balm of Gilead Tree. The fine caterpillar of the kitten moth, (*Cerura furcula*,) feed upon the leaves of this species and P. monilifera.

## Order XLVII. BETULACEÆ.

### The Birch Tribe.

Char.—*Flowers* hermaphrodite, or unisexual. *Perianth* free, 4—5 lobed. *Stamens* 4—12. *Ovarium* solitary. *Stigmas* 2, distinct. *Fruit* indehiscent, 2-celled, compressed, sometimes expanded into wings at the sides. *Seeds* solitary in the cells, pendulous. *Albumen* none. *(G. Don.)*

Deciduous trees, natives of Europe and N. America, chiefly valuable for their timber. Their properties are tonic and astringent.

### ALNUS. The Alder.

*(Lin. Syst.* Monœcia Tetrandria.)

Gen. Char.—*Barren flowers* numerous, aggregate, in a loose cylindrical catkin. *Calyx* a permanent wedge-shaped scale, 3-flowered. *Corolla* composed of 3 equal florets. *Filaments* 4. *Anthers* of 2 round lobes. *Fertile flowers* fewer, aggregate, in an oval firm catkin. *Calyx* a permanent wedge-shaped scale, 2-flowered. *Corolla* none. *Styles* 2. *Stigma* simple. *Nut* ovate, without wings. *(G. Don.)*

*Derivation.*—From the Celtic word *al*, near, and *lan*, the edge of a river, in reference to the places where the species grow.

Trees, preferring moist situations, with sapwood which turns red when exposed to the air.

#### 266. Alnus glutinosa.

The glutinous, *or common* Alder.

Spec. Char.—Leaves roundish, cuneiform, obtuse, wavy, serrated, glutinous; downy in the axils of the veins beneath.

Hab.—A deciduous tree. Britain, in watery places.

Local.—Upper Dell.*

Descript.—Height 30—60 ft. Flowers brownish; March and April. Fruit brown; ripe in Oct. Decaying leaves nearly black.

Obs.—The wood of the Alder is said to be unchangeable either in water or earth. It is used for all the purposes to which soft homogeneous woods are generally applied; viz., for turnery, sculpture, and cabinet-making; for wooden vessels, such as basins, plates, and kneading troughs; for sabots, wooden soles to shoes and pattens, clogs for women, and similar purposes. The bark is used by dyers and tanners; the sap being of a yellow colour and very astringent. The loose negligent manner in which its dark dull green leaves are distributed over its branches, gives the tree a dishevelled appearance, as if it were careless about itself; and, if the weeping willow is to be considered as representing outward and simulated grief, the alder, we should say, forms a good emblem of the grief of the heart.

Var. 1. *A. g. laciniata.* The cut-leaved glutinous Alder. Local.—Near the R. V. Park Gate, and opposite the Pond.

### 267. Alnus cordifolia.

### The heart-leaved Alder.

Spec. Char.—Leaves cordate, acuminate, dark green and shining.

Hab.—A large tree. Naples in woods.

Local.—Lawn opposite the pond.

Descript.—Height 15—20 ft. Introd. 1820. Flowers greenish brown; March and April, before the leaves appear.

Obs.—A very handsome and a beautiful glossy-leaved round-headed tree, with broad, deep green, shining leaves, deeply heart-shaped at the base. It is of rapid growth in dry soil, and quite hardy, and if more known would be in general cultivation.

## BETULA. The Birch.

(*Lin. Syst.* Monœcia Polyandria.)

Gen Char.—*Barren flowers. Catkins* cylindrical, lax. *Corolla* none. *Filaments* 10 to 12. *Anthers* roundish, 2-lobed. *Fertile flowers. Catkins* similar, but more dense; scales horizontal, peltate, dilated outwards, 3-lobed, 3-flowered. *Corolla* none. *Germen* compressed. *Styles* 2. *Stigma* simple. *Nut* oblong, deciduous, winged at each side. *(G. Don.)*

*Derivation.*—From *betu*, its Celtic name; or, according to others, from the Latin word *batuere*, to beat; from the fasces of the Roman lictors, which were always made of birch rods, being used to drive back the people. Pliny derives the name from *bitumen*.

### 268. Betula alba.

The white, *or common* Birch.

Spec. Char.—Leaves ovate, acute, deltoid, doubly serrated, glabrous.

Hab.—A deciduous tree. Britain, in moist woods.

Local.—Very frequent.

Descript.—Height 50—60 feet. Flowers whitish; April and May. Fruit brown; ripe in Sept. and Oct. Decaying leaves rich yellow, scarlet or red.

Obs.—One of the most hardy of trees, conspicuous in plantations for its white scaly outside, and when old, for the deep black clefts of its bark. The branches of this tree make the best brooms. The wood is useful for many purposes. In the Highlands of Scotland the natives build their houses of it; make their beds, chairs, tables, dishes, and spoons of it; construct their mills of it; make their carts, ploughs, harrows, gates, and fences, of it; and even manufacture ropes of it. The beauty of the birch tree, and the extreme gracefulness of its foliage, render it a fitting emblem of elegance. Coleridge calls it,

"most beautiful
Of forest trees,—the lady of the woods."

Shenstone makes a single birch tree an index to a school:—

"And all in sight doth rise a birchen tree,
Which Learning near her little dome did stow."

The schoolboys, looking on this tree,

"found their horror grew,
And shaped it into rods, and tingled at the view."

VAR. 1. *B. a pendula.*—The weeping Birch. The branches scabrous or warty, very slender and pendulous. LOCAL.—Lawn facing the City entrance;

"Where weeps the birch with silver bark,
And long dishevelled hair." *Scott.*

## 269. BETULA POPULIFOLIA.
## The Poplar-leaved Birch.

SPEC. CHAR.—Leaves deltoid, with long points, unequally serrated, quite smooth. Scales of the strobiles having roundish side lobes. Petioles glabrous.

HAB.—A tree. N. America.

LOCAL.—Lawn, near the Stone yard.

DESCRIPT.—Height 30—40 ft. Introd. 1750. Flowers greenish white; April and May.

OBS.—An elegant tree with large leaves and pendent branches, closely resembling B. alba.

VAR. 1. *B. p. laciniata.* The cut-leaved Poplar-leaved Birch. LOCAL.—At the commencement of the Lime-tree walk. A peculiarly elegant tree.

## 270. BETULA LENTA.
## The pliant Birch.

SPEC. CHAR.—Leaves cordate-ovate, acutely serrated, acuminate; petioles and nerves hairy beneath. Scales of the strobiles smooth, having the side lobes obtuse, equal, with prominent veins. (*Willd.*)

HAB.—A deciduous tree. N. America.

LOCAL.—

DESCRIPT.—Height 60—70 ft. Introd. 1759. Flowers greenish white; May and June. Fruit brown; ripe in Nov.

OBS.—According to Pursh, this is an elegant and large tree, the most interesting of its genus, on account of the excellence of its wood. It is strongly recommended to the lovers of curious trees, as "eminently adapted, from the beauty of its foliage and the agreeable odour of its flowers, to figure in their parks and gardens." It is known in Canada by the names of mountain mahogany, black birch, cherry birch, and sweet birch. This last appellation it has from the sweet scent the branchlets give when bruised.

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## ORDER XLVIII. CORYLACEÆ *or* CUPULIFERÆ.

### THE NUT TRIBE.

CHAR.—*Flowers* unisexual. *Male flowers* disposed in cylindrical catkins. *Perianth* small, scale-formed. *Filaments* usually free. *Female flower. Involucrum* various, 1 or many-flowered. *Perianth* many-toothed, adhering to the ovarium. *Ovarium* 1 or many-celled, containing many ovula. *Styles* 2—3, or multiplied. *Stigmas* distinct. The involucrum after florescence, becoming enlarged, and enclosing, in part or altogether, the pericarps, which are either solitary or many together. *Acorns*, or nuts, 1-celled, 1-seeded, by abortion. *Seed* pendulous. *Albumen* none. (*G. Don.*)

Deciduous or evergreen trees or shrubs, natives of most parts of the world, and having, as their acorns, mast or nuts. This order is of the greatest importance,

from its containing the Oak, Beech, Spanish Chestnut, Hornbeam, and Hazel Nut; which afford valuable timber and edible seeds. Astringent properties prevail to a great degree in the bark.

## QUERCUS. The Oak.

(*Lin. Syst.* Monœcia Polyandria.)

Char.—*Flowers* unisexual. *Males* disposed in long, slender, pendulous catkins, in groups. Each flower consists of 8 or more stamens, and these are attended by 6—8 bracteas, that are coherent at the base, and resemble a 6—8-parted calyx. *Female flowers* erect on axillary peduncles, a few upon a peduncle. *Style* short. *Stigma* 3-lobed. *Fruit* an acorn; its lower part having an imbricate cup. (*G. Don.*)

*Derivation.*—From *quer* fine, and *cuez*, a tree, *Celtic*, according to Lepelletier: but, according to others, from the Greek word *choiros*, a pig; because pigs feed on the acorns.

### 271. Quercus pedunculata.

The *common, or* peduncled, *British* Oak.

Spec. Char.—Leaves on short footstalks, oblong, smooth, dilated upwards; sinuses rather acute; lobes obtuse. Stalk of the fruit elongated. Nut oblong. (*Willd.*)

Hab.—A large, deciduous tree. Britain, in woods.

Local.—Between the Upper and Lower Dell.

Descript.—Height 50—100 ft., with spreading tortuous branches and spray. Flowers greenish and white; April. Nut brown; ripe in Oct.

Obs.—The Oak is perhaps the most valuable of forest trees. It is very ornamental and most magnificent whilst growing, and enhances the picturesque scenery of the landscape or park more than any other tree. From the durability of its wood, its uses are numerous and well-known. To the ship-builder, cooper, cabinet-maker, &c., it is in the greatest demand. The bark also from its containing the largest quantity of *tannin*, is in great request. Its saw-dust is used in dyeing, as also its oak-apples as a substitute for galls. The acorns are sought after by hogs, and are eaten likewise by pheasants.

### 272. Quercus Cerris.
### The Turkey Oak.

Spec. Char.—Leaves on very short stalks, oblong, deeply and unequally pinnatifed; hairy beneath. Stipules longer than the footstalks. Calyx of the fruit hemispherical, bristly.

Hab.—A large deciduous tree. S. Europe.

Local.—Frequent. Roadside near the Pond, and Upper boundary.

Descript.—Height 50—80 ft. Flowers greenish white; April. Acorns brown; ripe in Oct.

Obs.—A vigorous-growing species, remarkable for the variableness of its foliage, which in every variety is of very great beauty. The bark is comparatively smooth and dark when young, but corky as it grows old. The leaves are of a beautiful bright shining green, somewhat glaucous or hoary beneath; and they vary so exceedingly in size and shape in different trees raised from seed, that almost every individual, if described from the leaves alone, might be constituted a distinct species: they have short footstalks, and are most readily distinguished from those of oaks of every other section by their small buds, and the numerous persistent stipules which proceed from them. The acorns, which are remarkably bitter and austere, are sessile, or on very short footstalks; and they are easily known by the bristly or mossy clothing of their cups. The wood and bark are very inferior in value to those of the British oak.

Var. 1. *Q. C. variegata.* The variegated-leaved Turkey Oak. Local.—Near the Circus Hand-gate.

Var. 2. *Q. C. Fulhamensis.* The Fulham Oak. A fine broad-leaved sub-evergreen variety, and forming a very handsome conical tree of rapid growth. Local.—Hort. Gard.

Var. 3. *Q. C. Lucombeana.* The Lucombe Oak. Sub-evergreen, and closely resembling the Fulham Oak; but with a rougher and more corky bark. It has also a straight and fine pyramidal outline. Local.—Lawn, Upper boundary.

Var. 4. *Q. C. Lucombeana crispa.* The new Lucombe Oak. In this variety the bark is much more corky than the preceding, and the leaves somewhat curled at the edges. Local.—Western side of the Farm House.

"Both these last varieties are hybrids, produced between Quercus Suber and Q. Cerris; the latter species being the female parent. The former variety was raised by the late Mr. Lucombe, who was founder of the Exeter Nursery, from seeds gathered by him off a specimen tree of Q. Cerris, which grew in his nursery, near to one of Q. Suber, which accounts for its hybrid origin; the blossom of the Turkey oak having doubtless been impregnated by the farina of the cork tree. Mr. Lucombe first noticed it about 90 years ago, and extensively propagated and sold it all over the kingdom. When the original tree had attained 20 years' growth, and was about 3 ft. in circumference, Mr. Lucombe, being then far advanced in years, had it cut down, for the purpose of making his coffin out of it. He, however, lived so much longer than he had anticipated, that several years before his death he had another much larger and older tree cut down, sawn into planks, and carefully deposited under his bed, in readiness for the above purpose; and inside these planks, over which for many years he had reposed, he was at last put to rest, at the advanced age of 102 years."

### 273. Quercus macrocarpa.

### The large-fruited *American* Oak.

Spec. Char.—Leaves downy beneath, lyrate, deeply and sinuately lobed; the lobes obtuse and spreading,

and the upper one much dilated. The calyx deep, cup-shaped, scaly, and fringed with bristles. Acorns thick and ovate. (*Willd.*)

HAB.—A deciduous tree. N. America.

LOCAL.—Eastern end of the Lower Lawn.

DESCRIPT.—Height 60 ft. Introd. 1800. The leaves are larger than those of any other American oak, being frequently 15 in. long, and 8 in. broad.

OBS.—A fine and beautiful species, laden with dark tufted foliage. The bark of the young branches is frequently covered with a yellowish corky substance, like that which is found on the liquidambar and some kinds of elm.

### 274. QUERCUS RUBRA.

### The red, *or Champion* Oak.

SPEC. CHAR.—Leaves smooth, oblong, sinuated, on long stalks : lobes acute, sharply toothed, bristle-pointed. Calyx of the fruit flat underneath. Nut ovate. (*Willd.*)

HAB.—A large deciduous tree. N. America.

LOCAL.—Lawn near the Obelisk.

DESCRIPT.—Height 80—90 ft. Introd. 1739. Flowers greenish white ; May. Acorns brown, ripe in Oct.

OBS.—A splendid tree in spring, when its leaves are coming out, which are of a fine sulphur colour; but especially in autumn, when they are changing to dark red, crimson, scarlet, or a rich yellow. The leaves are very variable in shape, from the age of the plant, or the soil and situation in which it has grown.

### 275. QUERCUS COCCINEA.

### The scarlet Oak.

SPEC. CHAR.—Leaves smooth, oblong, deeply and widely sinuated, on long stalks : lobes divaricated, acute,

sharply toothed, bristle-pointed. Calyx of the fruit turbinate, half as long as the nut. *(Willd.)*

Hab.—A large deciduous tree. N. America.

Local.—

Descript.—Height 80 ft. Introd. 1691. Decaying leaves scarlet, red, or crimson, and deeply cut, like those of Q. palustris.

Obs.—A beautiful tree, liable to be mistaken for the Q. rubra, but from which it may be distinguished by the different hue which it assumes in autumn; the colour of this species being always a bright scarlet, or yellowish red, of more or less intensity; whilst that of Q. rubra is a dull crimson, or purplish red. The leaf also bears a greater resemblance to that of Q. palustris than any other species.

### 276. Quercus Ilex.

The *common evergreen*, or Holm, Oak.

Spec. Char.—Leaves ovate-oblong, acute, coriaceous, entire or serrated; hoary beneath. Bark even. Nut ovate. *(Willd.)*

Hab.—A middle-sized evergreen tree, or large shrub. S. Europe.

Local.—Between the Obelisk and Stone-yard. Frequent.

Descript.—Height 15—30 ft. Introd. 1581. Flowers greenish white; May. Acorns brown; ripening the second year.

Obs.—A handsome and well known evergreen tree, the timber of which is supposed to be equal to that of the common oak. It is mentioned as the Ilex by Virgil, and valuable in ornamental plantations or pleasure grounds. It is by far the commonest evergreen in Italy, where the monotonous character which it gives to many of the celebrated gardens in the neighbourhood of Rome and Florence, has

obtained for it from Forsyth, the name of "the eternal Ilex." It thrives better than most other evergreen trees in the immediate vicinity of cities, even where coal smoke abound; and hence it is a most desirable tree for public parks and gardens in their neighbourhood.

VAR. 1. Q. I. *serratifolia.* Leaves lanceolate, serrated. LOCAL. —Opposite the Pond.

VAR. 2. Q. I. *fagifolia.* Leaves broader and less rigid, more or less undulated, and sometimes slightly serrated. LOCAL.—Near the intended carriage entrance.

VAR. 3. Q. I. *latifolia.* Leaves broad, nearly entire. LOCAL.— Southern boundary.

VAR. 4. Q. I. *angustifolia,* or *salicifolia.* Leaves long and very narrow. LOCAL.—Opposite the statue Jupiter.

VAR. 5. Q. I. *Fordii.* Leaves small, pointed and twisted. LOCAL. —Near the City entrance, Eastern side. A handsome hybrid variety.

## 277. QUERCUS SUBER.

### The Cork Tree.

SPEC. CHAR.—Leaves ovate-oblong, bluntish, coriaceous, entire or sharply serrated; downy beneath. Bark cracked, fungous. (*Willd.*)

HAB.—An evergreen tree. S. Europe.

LOCAL.—Lower lawn, near the centre gate.

DESCRIPT.—Height 20—30 ft. Introd. 1699. Flowers greenish white; May. Acorns brown.

OBS.—The outer bark of this tree, forms the cork of commerce. It is separated by first making a circular cut round the trunk, immediately under the main branches, and another at a few inches above the surface of the ground. The portion of bark intervening between the two cuts is then split down in three or four places; care being taken both in making the circular cuts, and also the longitudinal ones, not to penetrate the inner bark. After being detached, it is flattened by presenting the convex side to heat, or by pressure. In

either case it is charred on both surfaces to close the transverse pores, previously to its being sold. The carbonized surface produced by this charring may be seen in bungs and taps, but not in corks, which being cut in the lengthway of the wood, the charring is taken off in the rounding.

## FAGUS. The Beach.

*(Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—*Male flowers* in globose catkins. Each flower consists of a 5—6-cleft bell-shaped calyx, and 8—12 stamens. *Female flowers* borne 2—6 together, within a pitcher-shaped indistinctly 4-lobed involucre. Each flower consists of a calyx, lengthened into a laciniate limb, and investing the ovary. *Fruit* nuts. *(G. Don.)*

*Derivation.*—From *phago*, to eat; because the nuts were used as food in the early ages.

### 278. Fagus sylvatica.

### The Wood, *or common*, Beech.

Spec. Char.—Leaves ovate, glabrous, obsoletely dentate; ciliate on their margins. *(Willd.)*

Hab.—A large and handsome deciduous tree. Britain, in woods.

Local.—Upper and Lower Lawn. Frequent.

Descript.—Height 60—100 ft. Flowers brownish; May. Nut brown; ripe in Oct. The bark is smooth and the leaves shining and persistent.

Obs.—It is one of the handsomest single trees for parks, and is well adapted to form lofty hedges. The timber is brittle, and not of long duration; but it is much used by turners, joiners, and millwrights. The bark is remarkably thin, and has been used for making baskets and band-boxes. The leaves remain during the winter in a dry

state on the branches, and are very long in decaying after their fall; are used in France by the country people, on account of their elastic quality, instead of straw for the paillasse to lay under their mattresses. The mast is readily eaten by swine and deer, and in France a sweet oil is expressed from it.

Var. 1. *F. s. purpurea.* The purple-leaved Beech. The buds and young shoots are of a rose colour; the leaves, when half developed, of a cherry red; and, when fully matured, at midsummer, of so dark a purple as to appear almost black. Local.—Roadside leading from the Obelisk to the Stone Yard.

Var. 2. *F. s. cuprea.* The copper-coloured Beech. Young shoots and leaves of a paler colour than those of the purple Beech. Local.—

Var. 3. *F. s. heterophylla.* The various, or cut, leaved Beech. Local.—Near the holly bed by the Obelisk.

Var. 4. *F. s. pendula.* The pendulous-branched, or Weeping Beech. Local.—At the Brock Street entrance and Lower Dell.

## CASTANEA. The Chestnut.

*(Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—*Male flowers* each consisting of a 6-parted calyx, and 10—15 stamens. *Female flowers* 3, within a 4-lobed, thickly muricated involucrum. *Fruit* 2—3 nuts, included in a 4-valved involucre. *(G. Don.)*

*Derivation.*—From *Castanea*, a town in Thessaly, or from another town of that name in Pontus.

### 279. Castanea vesca.

### The Spanish Chestnut.

Spec. Char.—Leaves oblong-lanceolate, acuminate, mucronately serrated; glabrous on each side. *(Willd.)*

Hab.—A stately deciduous tree. England, in woods.

Local.—Upper Lawn, and between the Obelisk and Pond.

Descript.—Height 50—70 ft. Flowers yellowish; May. Fruit greenish, enclosing a brown nut; ripe in Oct.

Obs.—A stately and majestic tree, rivalling, if not exceeding, the British Oak in size and duration; but in regard to its timber, comparatively worthless after a certain age. The wood has the remarkable property of being more durable when it is young than when it is old, and hence the value of this tree for posts, poles, stakes, hoops, &c. Chestnuts afford a wholesome and grateful food to many quadrupeds, as well as to mankind, for which reason it is also called the eatable, or sweet, Chestnut, and in contra-distinction to the Horse-chestnut.

## CARPINUS. The Hornbeam.

*(Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—*Male flowers; Catkin* lateral, sessile, cylindrical. *Bracteas* imbricate. *Stamens* 8—20. *Anthers* bearded at the tip, 1-celled. *Female flowers* in lax terminal catkins. *Bracteas* large, foliaceous, 3-lobed, 1-flowered. *Calyx* clothing the ovary to near its tip, and adhering to it; toothed at the tip. *Style* very short. *Stigmas* 2, long, thread-shaped. *Fruit* ovate, ribbed, including one seed. (*G. Don.*)

*Derivation.*—According to some, from *car*, wood, and *pix*, the head, Celtic; from the wood being used to make the yokes of oxen: and, according to others, from the Romans using the wood for making a sort of chariot, which they called *carpentum*, and which the Swedes still call *karm*. The English name of Hornbeam alludes to the horny texture of the wood.

Deciduous trees, resembling the beech, but with rougher leaves, and a much smaller and differently-shaped fruit.

### 280. Carpinus Betulus.

The common Hornbeam.

Spec. Char.—Bracteas of the fruit flat, oblong, serrated, with two lateral lobes. (*Smith.*)

Hab.—A deciduous tree. Britain, in woods.

Local.—Western end of the Upper Lawn, and near the Farm-house. Frequent.

Descript.—Height 30—70 ft. Flowers yellowish; May. Nuts brown: ripe in Oct. or Nov. The leaves resemble those of an elm, but smooth, doubly serrated, pointed, about two inches long, plaited when young, having numerous, parallel, transverse, hairy ribs.

Obs.—When standing by itself, and allowed to take its natural form, the Hornbeam makes a much more handsome tree than most people are aware of. Being extremely patient of the knife, and having persistent leaves like the beech; it is well adapted for hedges or separation, where the object is shelter. The wood is very tough and horny, and the bark smooth and whitish, or light grey spotted with white; and on old trees it is generally covered with a brownish moss. It is the common plant used in making labyrinths. Rapin says:—

"These mazy windings form a wilderness,
Which hornbeam hedges in trim neatness dress."

## OSTRYA. The Hop Hornbeam.

(*Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—*Male flowers* in an imbricated catkin. *Stamens* 12 or more. *Filaments* branched. *Anthers* each of 1-cell. *Female flowers* in a naked catkin. *Involucral scales* in pairs, hairy at the base. *Calyx* investing the whole ovary. *Style* short. *Stigmas* 2. *Fruit* a small nut, ovate, bearded at the tip. (*G. Don.*)

*Derivation.*—From *ostryos*, a scale; in reference to the scaly catkins of the fruit, which resemble those of the hop, whence the plants are called Hop Hornbeam.

### 281. Ostrya vulgaris.

### The Hop Hornbeam.

Spec. Char.—Strobiles ovate, pendulous. Leaves ovate, acute. Buds obtuse. (*Willd.*)

Hab.—A deciduous tree. Italy.

Local.—

Descript.—Height 30—40 ft. Introd. 1724. Flowers greenish white; May. Fruit small, whitish brown; ripe in Oct.

Obs.—In general appearance, this species bears a great resemblance to the common hornbeam, but is at once distinguished by the bracteal appendages, which are so close and regularly imbricated as to form a cylindrical strobile, very like the catkin of the female hop. The tree has a very handsome appearance when in fruit; and, in favourable situations, it will attain nearly as large a size as the common hornbeam.

### 282. Ostrya (v.) virginica.

### The Virginian Hop Hornbeam.

Spec. Char.—Strobiles ovate-oblong, erect. Leaves ovate-oblong, acuminate. Buds acute. *(Willd.)*

Hab.—A deciduous tree. N. America.

Local.—Lawn facing the back of Brock St.

Descript.—Height 15—40 ft. Introd. 1692. Flowers and fruit as in the former species.

Obs.—This species is probably but a variety of the Ostrya vulgaris or the European hop hornbeam, to which it bears a close resemblance. The wood is exceedingly hard and heavy, whence it is generally known in America under the name of Iron-wood. In some parts it is called Lever-wood.

## CORYLUS. The Hazel.

(*Lin. Lyst.* Monœcia Polyandria.)

Gen. Char.—*Male flowers* in cylindrical catkins. *Bracteas* sessile, imbricate. *Perigonal scales* two, cohering at the base. *Stamens* 8. *Anthers* bearded at

the tip. *Female flowers* in a bud-like catkin. *Bracteal scale* ovate entire. *Calyx* obsolete. *Stigmas* 2. *Fruit* an ovate nut. (*G. Don.*)

*Derivation*—According to some, from *korus*, a helmet; the fruit, with its involucre, appearing as if covered with a bonnet; and, according to others, from the Greek word *karnon*, a nut.

### 283. Corylus Avellana.

The *common* Hazel Nut.

Spec. Char.—Stipules oblong-obtuse. Leaves roundish, cordate, pointed. Involucre of the fruit campanulate, rather spreading, torn at the margin. (*Willd.*)

Hab.—A deciduous shrub or low tree. Britain, in woods and hedges.

Local.—*

Descript.—Height 10 ft. and upwards; but commonly found in the character of a bush, as undergrowth in woods, especially of the oak. Male flowers greyish; February: female flowers crimson; April. Nut brown; ripe in Oct.

Obs.—The common Hazel-nut is well known. The fruit being abundant, is gathered in plenty, and sent to the neighbouring markets, where it is in great request. As underwood, the plant is of some value for hoops, fishing-rods, walking-sticks, withes for faggoting, crate-making, hurdles, wattling-fences, and springles to fasten down thatch.

Cowley mentions that the hazel is the favourite resort of the squirrel:—

"————Upon whose nutly top
A squirrel sits, and wants no other shade
Than what by his own spreading tail is made.
He culls the soundest, dext'rously picks out
The kernels sweet, and throws the shells about."

Var. 1. *C. A. purpurea.*—The purple-leaved Hazel. Local — Eastern end of the Lower Lawn.

### 284. Corylus Colurna.

The *Constantinople* Hazel.

Spec. Char.—Stipules lanceolate, acuminate. Leaves roundish ovate, cordate. Involucre of the fruit double; the exterior many-partite, the interior 3-partite; divisions palmate. (*Willd.*)

Hab.—A deciduous tree. Turkey.

Local.—Bottom of the Hort. Gard.

Descript.—Height 50—60 ft. Introd. 1665. Flowers and fruit as in the common hazel, but longer and larger.

Obs.—A large tree, remarkable for the double involucre of its nuts. The fruit is edible, but not good.

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## Order. XLIX. GARRYACEÆ.

The Garrya Tribe.

Char.—*Flowers* unisexual. *Male flowers* in pendulous catkin-like racemes, within connate bracteas. *Calyx* 4-leaved. *Stamens* 4. *Female flowers* as in the male. *Calyx* connate with the ovary, 2-toothed. *Ovary* 1-celled. *Styles* 2, setaceous. *Ovules* 2, pendulous. *Fruit* a berried pericarp, not opening, 2-seeded. *Embryo* very minute, in the base of a great mass of fleshy albumen. (*G. Don.*)

Evergreen shrubs, with thick coriaceous leaves; natives of California and Mexico.

### GARRYA. The Garrya.

(*Lin. Syst.* Dicœcia Tetrandria.)

Gen. Char.—See Ord. Char.

*Derivation.*—Named by Mr. Douglas in compliment to *Nicholas Garry, Esq.*, Secretary to the Hudson's Bay Company.

### 285. Garrya elliptica.

The elliptic-leaved Garrya.

Spec. Char.—Young branches pubescent and purplish; when older, smooth and greyish. Leaves opposite, exstipulate, wavy, on short footstalks, oblong-acute, leathery, evergreen; dark green and shining above; hoary beneath. (*Lindl.*)

Hab.—An evergreen shrub. N. California.

Local.—Near the Lime tree walk and upon the adjoining Lawn.

Descript.—Height 3—10 ft. Introd. 1828. Flowers greenish white, or yellowish; Nov. to Feb.

Obs.—When in flower this species has a most singular and graceful appearance, from its long, slender pendulous catkins, and evergreen leathery leaves.

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## Order L. PLATANACEÆ.

### The Plane Tribe.

Char.—*Flowers* unisexual, collected into globose catkins. *Male flower* having the perianth composed of numerous small linear pieces, intermixed with the stamen. *Female flower* with the scales absent, or intermixed with the flowers; perianth adhering to the ovarium, cup-shaped, or ending in small pilose bristles. *Carpels* 1 or 2, 1-celled, horned at apex, coriaceous. *Seeds* solitary in the cells, pendulous. *Albumen* none. (*G. Don.*)

Lofty deciduous trees, with widely spreading branches, dense foliage, and bark scaling off in hard, irregular

patches. The cause of which Dr. Lindley states to be the rigidity of its tissue; on account of which it is incapable of stretching as the wood beneath it increases in diameter. Natives of Europe, Asia, Africa, and America.

## PLATANUS. The Plane Tree.

(*Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—See Ord. Char.

*Derivation.*—From *platys*, ample; in allusion to its spreading branches and shady foliage.

The species are trees of peculiar grace and elegance, and from that circumstance, and the classical associations attached to them, they are eminently adapted for pleasure grounds.

### 286. Platanus orientalis.

The Oriental Plane.

Spec. Char.—Leaves 5-lobed, palmate, cuneate at the base; the divisions lanceolate, sinuated. Stipules nearly entire. (*Willd.*)

Hab.—A large deciduous tree. The Levant.

Local.—

Descript.—Height 60—80 ft., with a wide-spreading head. Introd. 1548. Flowers greenish yellow; April and May. Fruit brown; ripe in Oct.; persistent great part of the winter.

Obs.—The Oricntal Plane is one of the noblest trees of the East, and is a much more beautiful and a much hardier tree than the Occidental Plane, but it is also of slower growth. Pliny affirms that there is no tree whatsoever that defends us so well from the heat of the sun in summer, or that admits it more kindly in winter. As an ornamental tree, no one, which attains so large a size, has a finer appearance, standing singly, or in small groups upon a lawn, where there is

sufficient room. The peculiar characteristic of the tree, indeed, is the combination which it presents of majesty and gracefulness; an expression which is produced by the massive, and yet open and varied character of its head, the bending of its branches, and their feathering to the ground.

### 287. Platanus acerifolia.

### The Maple-leaved Plane Tree.

Spec. Char.—Leaves cordate, 5-lobed, remotely dentate, truncate, or more or less cuneate at the base.

Hab.—A large deciduous tree. S. Europe.

Local.—Upper Lawn, and between the Obelisk and Pond.

Descript.—Height 70 ft. Introd. 1724. Flowers and fruit like P. orientalis.

Obs.—Hitherto this tree has been confounded or mistaken for the P. occidentalis, or a large-leaved variety of P. Orientalis. It appears from the recent observations of Sir. W. J. Hooker, who first drew public attention to it in the *Gardeners' Chronicle*, for Feb. 2nd, 1856, and a subsequent letter upon the subject in the same Chronicle, for Feb. 9th, 1856, by Mr. Rivers, of Herts., that Loudon was wrong in his description and identification of it, and that it is neither one or the other of those species, or even a variety, but a distinct species of itself; and accordingly it is here placed separately under the above name. It differs materially from either of the former species in being very robust and hardy, and perhaps more ornamental and graceful in its branches and foliage; and is so generally cultivated in parks and plantations that it has received in consequence the additional name of "the Park Plane." It is readily propagated by cuttings, whereas in the P. orientalis, and P. occidentalis, not one in a hundred, it is said, will succeed, which accounts, together with its hardiness, for its general cultivation by nurserymen. Moreover, it would appear that there are no old trees in the country of P. occidentalis, which were all killed by the severe frost of 1809, and 1813—14. The present species (P. acerifolia) is also deficient in the *copious* down formed

upon the leaves of P. occidentalis. It is considered to be probably a native of the S. Europe, where it is called P. hispanica, and P. macrophylla, identical with our P. acerifolia. For further interesting and valuable information respecting it, see the above and subsequent numbers of the *Gardeners' Chronicle*, for Feb. and March, 1856.

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## Order LI. BALSAMACEÆ.

### The Balsam Tribe.

Char.—*Flowers* unisexual. *Male catkins* in an upright raceme. *Stamens* numerous. *Female catkins* solitary, below the male ones, globose, on longer stalks. *Ovaria* many, 2-celled, each surrounded by a few scales. *Styles* two. *Fruit* a kind of cone, composed of indurated connected scales, in the cavities of which lie the capsules, which are 2-lobed. *Seeds* numerous, or solitary by abortion; compressed, membranous, winged. *Albumen* present. (*G. Don.*)

Deciduous trees, natives of Asia and N. America, with beautiful foliage, and intense fragrance. Decaying leaves of an intense purple.

### LIQUIDAMBAR. The Liquidambar.

(*Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—See Ord. Char.

*Derivation.*—From *liquidus*, liquid, and *ambar*, amber; the plants exuding a liquid gum.

#### 288. Liquidambar Styraciflua.

#### The Sweet-Gum Liquidambar.

Spec. Char.—Leaves palmately lobed, with the sinuses at the base of the veins, villose. (*Willd.*)

HAB.—A deciduous tree. N. America.

LOCAL.—*

DESCRIPT.—Height 30—50 ft. Introd. 1681. Flowers greenish yellow; March and April. Fruit brown; ripe in Oct.

OBS.—From this tree flows a strong balsamic substance, which has been compared to ambergris. It bears, in its general form and leaves, a considerable resemblance to the lesser Maple, (Acer *campestre*) as the wood is good timber and beautifully variegated. Between the wood and the bark issues a fragrant gum, which trickles from the wounded trees, and by the heat of the sun congeals into transparent drops, which the Indians chew as a preservation to their teeth. It smells like the balsam of Tolu. The wood is of an exquisite hard texture and fine grain, and furniture made of it has a handsome appearance. In Britain the principal use of this tree is as an ornament to lawns and pleasure grounds; in which it has a most striking appearance, when the leaves are dying off in autumn, of an intensely dark purple, sometimes mixed with red and orange; and it is also very beautiful throughout the summer, from the dark green and glossy surface of its elegantly shaped leaves.

## II. GYMNOSPERMÆ.

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### ORDER LII. CONIFERÆ *or* PINACEÆ.

#### THE CONIFEROUS *or* PINE TRIBE.

CHAR.—*Flowers* monœcious or diœcious, amentaceous. *Males* in deciduous, scarious catkins; *Stamens* distinct, adhering to the scales, with 1 or many celled *anthers*. *Females* either in cones or solitary, and surrounded by imbricated scales. *Ovules* erect, naked, sometimes seated in an envelope, which in Taxus becomes succulent. *Nuts* either solitary and naked, or enclosed within the hardened scales of a woody cone. *Embryo* straight in the

axis of a fleshy albumen. *Cotyledons* subulate, from 2 to ten in number; *radicle* superior. (*Lindl.*)

Trees and shrubs, chiefly evergreen, abounding in resin; natives of most parts of the world, more especially the temperate hemispheres. Their leaves are generally acerose and persistent, sometimes broad, very rarely deciduous.

"No order," observes Dr. Lindley in his excellent work *The Vegetable Kingdom*, "can be named of more universal importance to mankind than this; whether we view it with reference to its timber or its secretions. Gigantic in size, rapid in growth, noble in aspect, robust in constitution, these trees form a considerable proportion of woods or plantations in cultivated countries, and of forests where nature remains in temperate countries in a savage state. Their timber, in commerce, is known under the names of Deal, Fir, Pine, and Cedar; and is principally the wood of the Spruce, the Larch, the Scotch Fir, the Weymouth Pine, and the Virginian Cedar; but others are of at least equal, if not greater value."

The best collection of living plants in England is at Elvaston Castle, and the oldest collection at Dropmore.

### Sect. 1. Cupressineæ.

#### i. *Juniperineæ.*

#### JUNIPERUS. The Juniper.

(*Lin. Syst.* Diœcia Monadelphia.)

Gen. Char.—*Male flowers* in axillary or terminal catkins. *Pollen* of each flower in 3—6 cases. *Female flowers* in axillary catkins, resembling a bud; consisting

of 13 fleshy ovaries; bracteated at the base. *Ovules* 1 to an ovary. The ovaries coalesce, and become a fleshy juicy strobile, resembling a berry. *Seeds* 1—3, in each berry. (*G. Don.*)

*Derivation.*—From *juneprus*, rough or rude, *Celtic;* the plants of this genus being stiff shrubs: or from *juniores pariens*, from the young and old leaves being on the tree at the same time, or with reference to the young fruit being produced before the old fruit drops off.

Low evergreen trees or shrubs; natives of Europe, Asia, Africa, and N. America. They differ from the Cypresses and Arbor Vitæs, in having fruit with the general appearance of a berry. Also in having distinct needle-like leaves, generally glaucous above, and often joined at the base in bundles of three. It is a very beautiful genus, and exceedingly interesting from its classical associations.

### 289. Juniperus Oxycedrus.

The Sharp-Cedar *or brown-berried* Juniper.

Spec. Char.—Leaves ternate, spreading, mucronate, shorter than the berries.

Hab.—An evergreen shrub. Spain.

Local.—Bank-side near the statue Jupiter.

Descript.—Height 10—12 ft. Introd. 1739. Flowering in May and June. Berries very large, of a brownish red, and marked with two white lines.

Obs.—A handsome shrub when allowed sufficient space. It is closely allied to J. *communis*. In France, an essential oil is distilled from its wood, called *huile de eade*, which is used in veterinary medicine.

### 290. Juniperus communis.

The common Juniper.

Spec. Char.—Leaves ternate, spreading, mucronate, longer than the berry.

Hab.—An evergreen shrub. Britain, on heaths.

Local.—At the base of the statue Jupiter, and Upper boundary.

DESCRIPT.—Height 5—12 ft. Leaves channelled and glaucous on the upper side; convex, keeled, and dark green beneath. Flowers whitish yellow, from the pollen; ripening in May. Fruit purple or black; ripe the following spring.

OBS.—This is one of the oldest evergreens of British gardens, and formerly clipped into shapes of various animals, or geometrical figures, for which it is particularly well adapted from its small leaves and hardy nature. The berries are used extensively in Holland in the preparation of gin, and in medicine as a powerful diuretic. It was formerly supposed that this shrub, when grown in hot countries, produced the substance called gum sandarach, which, when powdered, is called pounce; but it is now discovered that this gum is the produce of Callitris quadrivalvis. The Juniper is mentioned in Holy Writ as the tree under which the prophet Elijah took refuge in the wilderness of Beersheba, to avoid the persecution of King Ahab.

VAR. 1. *J. c. suecica.* The Swedish, or Tree Juniper. LOCAL.—Upper boundary and near the statue Jupiter.

VAR. 2. *J. c. oblonga*, or *J. caucasica.* Leaves longer than any other variety. LOCAL.—Upper Dell by the pathway, and Bankside. This variety is considered by some to be the true Swedish Juniper.

VAR. 3. *J. c. oblonga pendula.* LOCAL.—Near the statue Jupiter. It forms a very graceful and elegant drooping shrub, about 10 ft. high.

### 291. JUNIPERUS RECURVA.

### The recurved *Nepal* Juniper.

SPEC. CHAR.—Leaves linear-lanceolate, mucronate, loosely imbricated, smooth, convex beneath. Berries roundish-oval, tubercled. Branches and branchlets recurved. (*G. Don.*)

HAB.—An evergreen shrub. Nepal.

LOCAL.—Bankside near the statue Jupiter.

DESCRIPT.—Height 10—15 ft. Introd. 1830. Flowering in May, and ripening its fruit in Nov. following.

Obs.—A very graceful bush, or low tree, from its pendulous habit, and quite as hardy as the common Juniper. It is also distinguished by the mixture of its brown, half-decayed, chaffy leaves of the past year, with its greenish grey leaves of the present year. The bark is rough, brown, and soon begins to curl up, when it has a rough appearance, and ultimately scales off.

### 292. Juniperus chinensis.

### The Chinese Juniper.

Spec. Char.—Leaves decurrent, imbricate-spreading, clustered; stem leaves in threes, branch leaves in fours, (*Willd.*)

Hab.—An evergreen tree. China and Japan.

Local.—Upper Dell.

Descript.—Height 15—20 ft. Introd. 1804. Flowers yellowish; May. Fruit blackish blue; ripe in Nov. The leaves are green, short, and imbricated; the fruit rough, angular and dry.

Obs.—There are two Varieties of this species, Male and Female, which differ in their appearance. The former is erect, close and fastigiate in its growth; and the latter, which is seen in the Dell, is more open and spreading. Both varieties are very ornamental.

### 293. Juniperus Sabina.

### The common Savin.

Spec. Char.—Leaves opposite, blunt, glandular in the middle, imbricated in 4 ways.

Hab.—A low evergreen shrub. S. Europe.

Local.—Upper Lawn.

Descript.—Height 7—8 ft. Introd. 1548. Flowering in March and April. Fruit blackish blue.

Obs.—The Savin, though generally seen in British gardens as a low spreading shrub, it sometimes forms an upright trunk, clothed with a reddish brown bark, and attains the height of 12 feet, or more. It will grow in the poorest soils, and in exposed situations; in the latter, however, it remains a prostrate shrub. Where great depth of colour is required in masses, this species will be found very valuable. It was much planted in gardens in the early part of the 17th century and later. The leaves are diuretic; and they are employed by clandestine practitioners to produce abortion in the human species, and also in domestic animals.

Var. 1. *J. S. tamariscifolia.*—The Tamarisk-leaved, or Berry-bearing, Savin. Local.—Bank, eastern side, near the City entrance, and Upper Dell.

Var. 2. *J. S. variegata.*—The variegated-Leaved Savin. Local.—Near the statue Jupiter.

### 294. Juniperus thurifera.

The incense bearing, *or Spanish,* Juniper.

Spec. Char.—Leaves imbricate in 4 rows, acute. *(Willd.)*

Hab.—An evergreen tree. Spain and Portugal.

Local.—Border, eastern end of the Lower Lawn.

Descript.—Height 20—30 ft. Introd. 1752. Flowering in May and June. Berries black.

Obs.—A beautiful species, and deserving of extensive cultivation.

### 295. Juniperus excelsa.

The tall Juniper.

Spec. Char.—Leaves opposite, somewhat obtuse, with a central gland; 4-ranked and imbricate; slender, acute, disposed in threes, and spreading. Stem arboreous. *(Willd.)*

Hab.—A tall evergreen tree. Siberia.

Local.—Near the Brock St. entrance, and opposite the Farm-House.

Descript.—Height 20—30 ft. Introd. 1806.

Obs.—A very handsome and elegant tree, of a pyramidal form, and glaucous hue; with an upright trunk and slightly pendulous branches.

### 296. Juniperus virginiana.

### The Virginian Juniper, *or Red Cedar.*

Spec. Char.—Leaves in threes, adnate at the base: young ones imbricated, old ones spreading. (*Willd.*)

Hab.—An evergreen tree. N. America.

Local.—Upper Dell.

Descript.—Height 40—50 ft. Introd. 1664; flowering in May, and ripening its dark blue fruit in Oct.

Obs.—The Red Cedar varies exceedingly from seed. As an ornamental tree or large shrub, it is highly valued, either for planting singly on lawns, or in groups along with other trees and shrubs. The name of Red Cedar refers to the beautiful red of the heart-wood of this tree, the sap-wood being perfectly white. The cigar boxes imported from America are made from its wood, and also black-lead pencils, though the Bermuda Juniper is preferred for that purpose.

### 297. Juniperus phœnicea.

### The Phœnician Juniper.

Spec. Char.—Leaves in threes, obliterated, imbricated, obtuse. (*Willd.*)

Hab.—An evergreen shrub, or low tree. S. Europe.

Local.—

Descript.—Height 10—20 ft. Cultivated in 1683. flowering in May and June, and ripening its pale yellow fruit at the end of the second year.

### 2. *Actinostrobeæ.*

## LIBOCEDRUS. The Libocedrus.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male catkin* cylindrical, terminal. *Stamens* 5—7. *Filaments* short, prolonged into a scale-formed, deltoid, peltate process, bearing 4-cells on the lower margin. *Female catkin* solitary, terminal. *Gemmiferous scales* 4, verticillate, mucronate beneath the apex. *Cone* 4-valved, alternate. *Valves* smaller, 1-seeded. *Seed* unequally winged at both ends. (*G. Don.*)

*Derivation.*—Not explained.

This genus was separated from that of Thuja by the late Professor Endlicher.

### 298. Libocedrus chilensis.

The Chilian Arbor Vitæ.

Spec. Char.—Habit of Arbor Vitæ. Leaves opposite, ovate-oblong, scale-formed, decussate, imbricate in 4 rows. Cones oval-oblong of 4 scales. Seed winged at top. (*G. Don.*)

Hab.—An evergreen tree. Chili.

Local.—Near the Statue Jupiter.

Descript.—Height 30—40 ft. Introd. 1849. Flowers in April.

Obs.—This species forms a fine evergreen tree of considerable height, resembling in appearance the American Arbor Vitæ, "but less robust; sometimes branching from the base, and gaining the habit of a Cypress, but in other cases forming a conical head." It appears to be hardy.

### 3. *Thuiopsideæ.*

### BIOTA. The Biota.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male catkins* ovoid, terminal. *Stamens* imbricate, in 4 rows. *Connective* peltately orbicular, mutic, with 3—4 horizontal cells. *Female catkins* solitary, terminal. *Gemmiferous scales* 6—8, broad, decussate, opposite, sessile, mucronate, imbricate; inner ones sterile. *Scales* of cone coriaceous, 2-seeded. *Seeds* oval, without wings. (*G. Don.*)

*Derivation.*—Named after *M. Biot*, a celebrated French Astronomer.

This genus was also separated from that of Thuja, by the late Professor Endlicher.

### 299. Biota orientalis.

The Oriental, *or Chinese*, Arbor Vitæ.

Spec. Char.—Branchlets 2-edged. Leaves imbricated in 4 rows, ovate-rhomboid, adpressed, furrowed along the middle. Cones elliptic.

Hab. — A low evergreen tree, or fastigiate shrub. China.

Local.—Upper Lawn. Frequent.

Descript.—Height 13—25 ft. Introd. 1752. Flowering in May. Cones brown, ripe in Nov.

Obs.—A well known and much admired species; distinguishable at first sight, from the American Arbor Vitæ, by its more dense habit of growth, by its branches being chiefly turned upwards, and by its leaves or scales being smaller, closer together, and of a lighter green. It is a more compact-growing and handsome species than the American Arbor Vitæ and the foliage of a yellowish green, darker in winter than in summer. It is very popular and very common in gardens and pleasure grounds, where it adds much to the beauty and ornament of the place.

Var. 1. *B. o. variegata aurea.* Local.—By the statue Jupiter.

### 300. Biota tatarica.

The Tartarian Arbor Vitæ.

Spec. Char.—Branches flattened, imbricate. Leaves in 4 ranks, smaller than in other species.

Hab.—A low evergreen tree or shrub. Tartary.

Local.—Within the railing at the City entrance, and opposite the Farm House.

Descript. — Height 10 — 20 ft. Introd. 1830. Branches low and spreading at the base, and tapering upwards in a pyramidal form.

Obs.—This species which is known also by the name of Biota *nepalensis*, or B. *pyramidalis*, is a very elegant and beautiful plant and perhaps more admired than the previous species. It is very ornamental and particularly well adapted for a lawn.

### 301. Biota pendula.

The pendulous, *or Weeping,* Arbor Vitæ.

Spec. Char. — Leaves opposite and decussating, spreading, lanceolate, mucronulate, keeled, somewhat distant. Cones globose. Scales convex, smooth. Branches filiform, pendulous. (*Lamb.*)

Hab.—A low evergreen tree. Chinese Tartary.

Local.—*

Descript.—Height 10—15 ft. Introd. 1800.

Obs.—A remarkable and very desirable species.

Var. 1. *B. p. intermedia.* Local.—Pathway between the two Dells.

## THUJA. The Arbor Vitæ.

*(Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—See Biota, from which it differs, in the seeds being compressed and winged.

*Derivation.*—From *thyon*, sacrifice; the wood, which, when burnt, gives out an agreeable perfume, having been used in sacrifices.

### 302. Thuja plicata.

The plicate, *or Nees*, Arbor Vitæ.

Spec. Char.—Branchlets compressed, spreading. Leaves rhomboid-ovate, acute, adpressed, imbricated in 4 rows, naked, tubercled in the middle. Cones oblong, nodding. Seeds obcordate. *(Lamb. Pin.)*

Hab.—An evergreen tree or large shrub. N. America.

Local.—Eastern side, near the City entrance, and Upper Lawn.

Descript.—Height 20—30 ft. Introd. 1796. A very branchy, spreading, light green tree. Branches crowded, covered with a reddish-brown bark.

Obs.—This species resembles in general appearance the following, Thuja *occidentalis*, but is smaller and altogether more compact. It is more frequently named in the nurseries Thuja *Wareana*, or the Siberian Arbor Vitæ. A beautiful plant, and one now much cultivated.

### 303. Thuja occidentalis.

The Western, *or American*, Arbor Vitæ.

Spec. Char.—Branchlets 2-edged. Leaves imbricated in 4 rows, ovate-rhomboid, adpressed, naked, tuberculated. Cones obovate.

Hab.—An evergreen tree, or large shrub. Canada.

Local.—Frequent. Upper Lawn and border of the Southern boundary.

Descript.—Height 40—50 ft. Introd. 1596. Flowering in May, and ripening its cones in Nov.

Obs.—A well-known popular evergreen, seldom rising in this country higher than a shrub, but attaining the height of a timber tree in Upper Canada, where the wood is considered more durable than any other. In England the wood has been chiefly used by the

turner and cabinet-maker. It is readily distinguished from the Oriental, or Chinese Arbor Vitæ, (Biota *orientalis;*) by a comparatively open habit of growth, and darker green leaves, which are tubercled or glanded, instead of furrowed.

### 304. Thuja gigantea.

### The gigantic Arbor Vitæ.

Spec. Char.—Branchlets compressed. Leaves imbricated in 4 rows, ovate, acute; marginal ones navicular; the facial convex, glanded. *(Carriere.)*

Hab.—A large evergreen tree. N. America.

Local.—Eastern end of the Lower Lawn.

Descript.—Height 60—170 ft. Introd. 1854.

Obs.—A very handsome hardy evergreen tree, indigenous to N. W. America, along the banks of the Columbia River and Nootka Sound, and attaining the height of from 60 to 170 ft. The branches, which resemble some of the more graceful species of *Lycopodium*, are spreading, with compressed, flattened, erect branchlets. The wood is said to be excellent.

## FITZROYA. The Fitzroya.

*(Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male flowers* unknown. *Female catkin* solitary, sessile, globose, terminal. *Scales* 6, inserted by 2 series. *Ovula* 3, at the base of each scale. *Fruit* like a cone. *Seeds* orbicular, sub-bilobed, ciliately compressed. *(G. Don.)*

*Derivation.*—Named after *Capt. Robert Fitzroy*, R. N., of H. M. S. "Beagle."

### 305. Fitzroya patagonica.

### The Patagonian Fitzroya.

Spec. Char.—Leaves ternate or quaternate, rarely opposite or alternate, linear, or sub-oval, marked on the under side with a double glaucous line. *(Carriere.)*

Hab.—An evergreen tree. Patagon.

LOCAL.—Near the statue Jupiter.

DESCRIPT.—Height 20 ft. Introd. 1846. Flowering in April.

OBS.—"This species is a graceful drooping evergreen tree with the habit of *Libocedrus tetragona*. When young, the leaves are spreading and linear; when old, they become triangular, sessile and closely imbricated scales. The female flowers are terminal and stellate cones, remarkable in having the axis terminating in three short clavate glands or abortive scales. The fruit is of 9 scales, 3 in each whorl; the middle 3 are alone fertile, and each fertile scale has 3 erect seeds surrounded by a broad wing and ending in a narrow neck."

## 4. *Cupressineæ veræ.*

## CUPRESSUS. THE CYPRESS.

(*Lin. Syst.* Monœcia Monadelphia.)

GEN. CHAR.—*Male flowers* in terminal solitary catkins. *Pollen* of each flower contained in 4 cases. *Scales* peltate. *Female flowers* with the ovaries connate with the bractea. *Ovules* to each receptacle 8 or more. *Strobile* globose. *Receptacles* peltate. *Seeds* compressed, angular. *Cotyledons* 2. (*G. Don.*)

*Derivation.*—According to some, from *kuo*, to produce, and *parisos*, nearly resembling; in allusion to the regularity of the branches; or from *Cyparissus*, a beautiful youth of the Island of Ceos, who was changed into a cypress; or, according to others, from the Isle of *Cyprus*, where one species of the tree was found in abundance.

Evergreen trees, or large shrubs; natives of Europe, Asia, and N. America; remarkable for the fine grain and durability of their wood.

### 306. CUPRESSUS FASTIGIATA.

The *common*, or evergreen, Cypress.

SPEC. CHAR.—Branchlets quadrangular. Leaves imbricated in 4 rows, obtuse, adpressed, convex. Cones globose; scales mutic. Branches straight. (*Willd.*)

Hab.—A fastigiate evergreen tree. S. Europe.

Local.—Upper Lawn.

Descript.—Height 30—40 ft. Introd. 1548. Flowering in April and May, and ripening its dark brown cones in the following Spring.

Obs.—The Cupressus *fastigiata* or *C. sempervirens* is a flame-shaped, tapering, cone-like tree, with upright branches growing close to the trunk. It was considered by the ancients as an emblem of immortality, and, as such, was dedicated to the dead, from its being evergreen, and from its power of rising again when bent down by the wind, or manual force, hence the custom of planting it in cemeteries and churchyards. From its narrow form and erect habit of growth, it is well adapted for small gardens, and for planting near buildings; also to break the regularity and monotony of horizontal lines formed by round-headed low trees or shrubs, in the same way as the Lombardy Poplar, or the Larch, does in ornamental plantations, adding much to the beauty and picturesque effect of the lawn and pleasure ground. Its wood is said to resist the worm and to be of great durability.

### 307. Cupressus torulosa.

The *Bhotan*, or twisted, Cypress.

Spec. Char.—Leaves ovate-obtuse, imbricated in 4 rows. Galbulus globose, pedicellate. Scales bossed. Branchlets round, knotted, divaricate, crowded, spreading. (*Lamb.*)

Hab.—A pyramidal, much branched, evergreen tree. Nepal, on the Bhotan Alps.

Local.—Lower Lawn, and Upper Dell.

Descript.—Height 30 ft. Introd. 1824. Flowering in April.

Obs.—A very handsome species, and it is said when growing on the Himalayas, almost to rival the noble Deodara Cedar in size and beauty. Its timber is also said to be equal to that of the Deodara.

### 308. Cupressus lusitanica.

The *Cedar of Goa, or* Portugese Cypress.

Spec. Char.—Branches flexuose, spreading; branchlets quadrangular. Leaves imbricated in 4 rows, acute, keeled, glaucous, adpressed. (*Lamb. Pin.*)

Hab.—A branchy evergreen tree; in England a shrub. Goa and Japan.

Local.—

Descript.—Height 50 ft. Introd. 1683. Flowering in April and May. It is easily distinguished from all the evergreens of the Coniferæ by its abundance of very long dichotomous pendent branchlets.

Obs.—This species (called also *Cupressus religiosa and C. glauca,*) is considered the most ornamental of the genus. It forms a remarkably handsome low tree or shrub in this country, with spreading branches, somewhat pendulous, and covered with fine glaucous foliage.

### 309. Cupressus funebris.

The Funebral, *or weeping,* Cypress.

Spec. Char.—Branchlets 2-edged, leafy; the oldest very long, pendulous; the younger short, alternate, 2-rowed, spreading.

Hab.—A fine evergreen tree. China.

Local.—Near the statue Jupiter.

Descript.—Height 50—60 ft. Introd. 1849. Flowers in April.

Obs.—When young it is a very variable plant, and has the appearance of a Juniper in its foliage; but after it has attained a few feet in height, the leaves become scaly and imbricated like the Cypress, and the branches pendulous.

This elegant and deservedly much admired plant, was first noticed by Lord Macartney and Sir G. Staunton, who discovered it growing

in the celebrated "Vale of Tombs," in the North of China. But it is however, to Mr. Fortune that we are indebted for its introduction into this country. It is one of the most graceful, as well as the most beautiful weeping evergreens yet known, and is the weeping tree in the well-known willow pattern china. Mr. Fortune met with it near the celebrated tea county of Whey Chow, and it had the appearance he says, of "a noble-looking fir-like tree, about 60 feet in height, having a stem as straight as the Norfolk Island Pine (Araucaria *excelsa*), and pendulous branches like the weeping willow. It will be particularly valuable for park-scenery, for lawns, for the entrance to suburban residences, and as an ornament for cemeteries."

### 310. Cupressus Lambertiana.

Lambert's, *or the large-fruited,* Californian Cypress.

Spec. Char.—Leaves ovate-imbricate, in 4 rows, grass-green, closely set in old plants, but expanded and awl shaped in seedlings. Branches spiral, alternate or opposite, dense. (*G. Don.*)

Hab.—A large evergreen tree. California.

Local.—Small dell by the Lime tree walk, and Lawn opposite the Farm House.

Descript.—Height 60—80 ft. Introd. 1836. Cones 3—4 together, oblong. Seeds large, dark brown.

Obs.—The Cupressus *Lambertiana* or C. *macrocarpa*, is a very beautiful and much admired species, remarkable for the bright green colour of its foliage, which renders it a very desirable object to introduce in landscape scenery. It was introduced into this country by Mr. Hartweg.

### 311. Cupressus Goveniana.

Gowen's Cypress.

Spec. Char.—Leaves bright, imbricate in 4 rows in old plants, but expanded and awl-shaped in seedlings. Branches opposite or alternate. (*G. Don.*)

Hab.—An evergreen shrub or low tree.

Local.—Near the statue Jupiter.

Descript.—Height 5—10 ft. Introd. 1848. Cones in clusters of 6—8 scales, which are nearly 4-sided, with elevated centres, many-seeded.

Obs.—A very ornamental and interesting species, from its bushy habit of growth, and light green colour. It is named in compliment to James Robert Gowen, Esq., the Treasurer of the Horticultural Society of London.

## CHAMÆCYPARIS. The Chamæcyparis.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—See Cupressus, from which it differs in the scales of the cones being two-seeded, instead of many seeded.

*Derivation.*—

### 312. Chamæcyparis sphæroidea.

The *White Cedar, or* Thuja-like Cypress.

Spec. Char.—Branchlets compressed. Leaves imbricated in 4 rows, ovate, tuberculate at the base. (*Willd.*)

Hab.—An evergreen tree or shrub. N. America, in swampy ground.

Local.—Eastern side, near the City entrance.

Descript.—Height 10—20 ft. Introd. 1736. Flowering in April and May, and ripening its cones the following spring.

Obs.—The White Cedar was formerly considered a Cypress, and called Cupressus *thyoides*, but it has now been separated from that genus, and formed into a new one under the name of Chamæcyparis *sphæroidea*. The wood is light, soft, fine-grained, and easily worked. In this country it is only planted as an ornamental shrub or low tree.

### 5. *Taxodineæ.*

### TAXODIUM. The Deciduous Cypress.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male flowers* in catkins. *Pollen* of each flower borne in 5 cases. *Female flowers* in catkins, 2—3 together. *Ovules* 2 to an ovary. *Strobile* globose. *Scales* peltate, angled. *Seeds* angular. *Cotyledons* 6—7. (*G. Don.*)

*Derivation.*—From *taxus*, the yew, and *eidos*, like; the trees resembling the yew.

Conical deciduous trees, with the leaves of the yew.

#### 313. Taxodium distichum.

The Deciduous Cypress.

Spec. Char.—Leaves 2-rowed, flat, deciduous. Male flowers leafless and panicled. Cones somewhat globose. (*Willd.*)

Hab.—A lofty deciduous tree. Florida, in swampy ground.

Local.—Upper Dell.

Descript.—Height 50—80 ft. Introd. 1640. It flowers in May, and the cones, which are brown, are ripened in the following spring.

Obs.—A large tree in American swamps, remarkable for throwing up conical protuberances from the roots, which they do also in this country when planted in marshy ground. The wood forms the best shingles of any tree in N. America.

### CRYPTOMERIA. The Cryptomeria.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male catkin* spicate. *Antheriferous scales* roundish, adpressed, imbricate. *Cells of anthers*

5, connate. *Ovula* erect. *Cone* solitary, globose, squarrose, composed of 3—6-toothed scales. *Bracts* acuminated. *Seeds* 4—6, compressed, angular, hardly winged. (*G. Don.*)

*Derivation.*—From *kryptos*, hidden, and *meris*, a part.

### 314. Cryptomeria japonica.

### The Japan Cedar.

Spec. Char.—Leaves subulate, disposed in 5 rows, vertically compressed, hardly 1 inch long. Male aments aggregate into a terminal spike. Seed solitary, globose. (*G. Don.*)

Hab.—A tall evergreen tree. Japan.

Local.—Grass mound near the Obelisk, and also in the Upper and Lower Dell.

Descript.—Height 60—100 ft. Introd. 1844. It flowers from May to July.

Obs.—A stately and singular looking tree, very tall and erect, with a pyramidal head. It is of rapid growth. The timber is said to be soft, and easily worked; and it is used for various purposes, particularly for cabinet work, among the Japanese. Nothing was known of the living plant, until Mr. Fortune succeeded in obtaining seed at Shanghae, in the North of China, where it had probably been introduced from Japan; and from these seeds the first plants were raised in Britain.

## Sect. II. Abietineæ.

### 1. *Abietineæ veræ.*

### PINUS. The Pine.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male flowers* in grouped catkins. *Pollen* contained in 2-cells, formed in the scale, that open

lengthwise. *Female flowers* with 2 ovules. *Strobile* in most species ovately conical. *Carpels* or outer scales thickened at the tip; persistent. *(G. Don.)*

*Derivation.*—The word Pinus comes from the Greek *pinos*, used by Theophrastus to designate the pine tree. *Pinos* has for its root *pion*, which signifies fat; because the trees of this genus furnish pitch and tar. Others derive the word Pinus from *pin*, or *pyn*, a mountain or rock, *Celtic;* in allusion to the habitat of the tree.

Evergreen trees, generally of large size, natives of Europe, Asia, and America; remarkable for their grandeur and beauty, as well as for their valuable timber, which supply the common deal of commerce.

The pines are distinguished from the firs, by having the leaves in groups or clusters 2, 3, 4, or 5; whereas, in the firs, the leaves are single.

### 1. Binæ.—*Leaves 2 in a sheath.*

### 315. Pinus sylvestris.

### The Wood, *or Scotch*, Pine, *or Scotch Fir.*

Spec. Char.—Leaves rigid, in pairs. Young ones stalked, recurved. Crest of the anthers very small. (*Smith.*)

Hab.—A tall, straight, hardy, long-lived tree. Norway and in the Highlands of Scotland, in vast natural forests.

Local.—Border of the Lower Lawn, and Upper boundary.

Descript.—Height 60—100 ft. Flowering in May and June, and ripening its cones about 18 months afterwards.

Obs.—The bark has a reddish tinge and scales off in thick portions. The leaves are of a glaucous, dark, sea-green colour. This tree and the oak are by far the most useful European timber trees, the former for domestic, and the latter for naval architecture. All the timber from the Baltic and Norway is of this tree, as all the spars and poles from the same regions are of the common spruce fir. The wood, or

Red Deal, from its durability and facility in working is employed in joinery and house carpentry almost to the exclusion of every other kind of timber, wherever it can be procured. Turpentine, which is the natural exudation of this tree, is produced either spontaneously, or from wounds in the trunk. Tar and pitch are also produced from it by means of fire or boiling. This species forms the badge of the Highland clan M'Gregor.

### 316. Pinus Laricio.

The *Corsican, or* Larch, Pine.

Spec. Char.—Leaves lax, twice the length of the cones. Cones conical. Scales narrowed at the base and very thickened at the end, not angular.

Hab.—A lofty tree. Corsica.

Local.—Upper Dell.

Descript.—Height 60—100 ft. Introd. 1759. It flowers in May, and its cones are ripe in Nov. of the second year.

Obs.—It is easily distinguished by its candelabra-like mode of growth, its long leaves, small cones, and long tapering buds, encrusted with white resin, which are concave at the sides, resembling a camel-hair pencil. In Britain this tree, from its very regular and handsome form, the intensely dark green of its abundant foliage and great rapidity of its growth, particularly on sandy soils, is chiefly planted as one of ornament. It is easily worked, and is used both by cabinet-makers and sculptors in wood; the figures which ornament the heads of vessels being generally made of it.

### 317. Pinus (L.) austriaca.

The Austrian, *or black,* Pine.

Spec. Char.—Leaves from 2—5 inches long; seldom, and but little, twisted; when young, erect; when older,

standing out, and curved towards the twig. Points prickly. *(G. Don.)*

Hab.—A large tree. Austria.

Local.—Upper and Lower Dell. Frequent.

Descript.—Height 60—80 ft. Introd. 1835. It flowers about the end of May, and the cone is ripe in the Oct. of the second year.

Obs.—In this species the buds are large, acuminated, and encrusted with white resin. A very ornamental and useful tree, giving much shelter from its dense foliage and umbrageous branches. It is much valued in Austria, when kept dry; and is said to surpass even the larch in resisting the injurious effects of water, or of alternate moisture and dryness. It is used by joiners, coopers, &c., and makes excellent fuel. When burned, the flames, on account of the resin contained in the wood, produce a very dense black smoke; and, where lampblack is the object, it is very productive of that substance. The wood is preferred to that of the beech for charcoal; and the roots afford splinters for torches. Among all the native pines of Austria, this one is said to afford the greatest quantity of turpentine.

### 318. Pinus Pinaster.

### The Pinaster, *or Cluster*, Pine.

Spec. Char.—Leaves in pairs, rigid, very long. Cones conical, placed in whorls of 3—8. Scales echinate. (*G. Don.*)

Hab.—A large, handsome, pyramidal tree. S. Europe.

Local.—Near the statue Jupiter.

Descript.—Height 50—70 ft. Introd. 1596. Flowers April and May; and the cones ripen at the end of the second year.

Obs.—The branches are in regular whorls and invariably turn upwards. The groups of cones point outwards in star-like clusters; whence the name of pinaster, or star pine. Buds white and woolly,

without resin, with the scales reflected. This species is a grand and picturesque tree, and is a great favorite with the Roman and Florentine painters. The timber is of less value than that of any of the others that have been mentioned; in Switzerland it is cut into shingles for covering their houses. It is highly deserving of culture as an ornamental tree, but not for timber. There is a more decided taproot in this pine than in any other European species, and in proportion as the perpendicular roots are stronger, the horizontal ones are weaker; and hence, from the weight of the head, produced by the dense mass of long foliage, the stem is generally inclined to one side, and after a few years a curvature appears close above the root, which remains visible even in old trees. The common resin of commerce is extracted from this tree while it is in a growing state.

Var. 1. *P. P. minor.* Principally distinguished by its smaller cones, and the size of the plant altogether. Local.—Bottom of the Upper Dell.

## 319. Pinus Pinea.

### The *Stone* Pine.

Spec. Char.—Leaves in pairs. Cones ovate, obtuse. Seed bony, with very short wings. Crest of the anthers jagged. (*Smith.*)

Hab.—A low or middle-sized tree. S. Europe.

Local.—Between the Obelisk and Pond, and Upper boundary.

Descript.—Height according to climate 15—60 ft. Introd. 1548. It flowers in May or June, and ripens its cones in the autumn of the second year.

Obs.—The buds resemble those of Pinaster, but are smaller in all their dimensions, much less pointed, more woolly, and wholly without resin. This is a round-headed Pine, well known for the fine effect it produces in the grounds of Italian villas. The cones are large and very handsome, and the seeds of this and the last species are eaten throughout Italy, both by the poor and rich. They are as sweet as almonds, but with a slight flavor of turpentine. The wood is not so

resinous as that of most of the other sorts, and the tree can only be considered as deserving culture for its pictorial effect. There is the same inclination or curvature of the stem to one side in this species, as in the Pinaster.

### 320. Pinus halepensis.

### The Aleppo Pine.

Spec. Char.—Leaves in pairs, very slender. Cones pyramidal, rounded at the base, turned downwards, smooth, solitary or in pairs, stalked. (*Lois.*)

Hab.—A low tree. S. Europe.

Local.—Upper Dell.

Descript.—Height 20—30 ft. Introd. 1683. It flowers in May or June, and the cones are ripened in the autumn of the second year.

Obs.—The Aleppo Pine has a spreading habit of growth, with more slender branches than most other pines. Its chief use is for extracting its resinous products, for which it is much preferred to the pinaster. The liquid resin collected from it in Provence, is often sold for Venice turpentine. In this country it can only be considered as ornamental; and, when planted singly on a lawn, it forms one of the handsomest species of the genus. According to Bosc, it is the most elegant of European pines.

## 2. Ternatæ.—*Leaves* 3 *in a sheath.*

### 321. Pinus Sabiniana.

### Sabines, *or the great prickly-coned,* Pine.

Spec. Char.—Leaves in threes, very long. Cones ovate, echinate, very large. Scales long, awl-shaped, incurved, and spiny at the apex. (*Lamb.*)

Hab.—A large tree. Upper California.

Local.—Upper Dell.

DESCRIPT.—Height 50—140 ft. Introd. 1832. Flowers in Feb. and March. Buds nearly 1 inch long, without resin.

OBS.—A magnificent and handsome tree of surpassing beauty. The leaves are from 10—14 in. long, of a beautiful glaucous hue, flexuose, and when matured, partly bent downwards. The young shoots are also covered with a violet bloom.

### 322. PINUS INSIGNIS.

The remarkable Pine.

SPEC. CHAR.—Leaves 3, and occasionally 4, in a sheath; much twisted, varying greatly in length, of a deep grass-green, and very numerous. Cones ovate, pointed, with the scales tuberculate. (*G. Don.*)

HAB.—A large tree. California.

LOCAL.—Upper Dell.

DESCRIPT.—Height 60—100 ft. Introd. 1833. Flowers in April. Buds very small, and apparently without resin.

OBS.—This pine is well named insignis; its general appearance being indeed remarkable, and totally different from that of every other species that has yet been introduced. The leaves are of a deep grass-green, thickly set on the branches, twisted in every direction, and of different lengths. It is a tree of great beauty, and grows with great rapidity. The wood also, is said to be good, and deserves to be extensively planted.

## 3. QUINÆ.—*Leaves 5 in a sheath.*

### 323. PINUS CEMBRA.

The *Cembran* Pine.

SPEC. CHAR.—Leaves in fives; sheaths deciduous. Cones ovate, erect, obtuse. Scales appressed. Nuts hard.

Hab.—A tall tree. Siberia and Switzerland.

Local.—Upper Dell, and near the statue Jupiter.

Descript.—Height 50—80 ft. Introd. 1746. It flowers in May, and ripens its cones in the Nov. of the following year.

Obs.—The flowers have a more beautiful appearance than in any other species of pine, being of a bright purple; and the unripe, full-grown cones, have a bloom upon them like that of a ripe Orleans plum. It is one of the most valuable Coniferous trees ever introduced into this country. Of all pines that are suitable for small gardens, P. Cembra is the best, as it grows exceedingly slow, seldom more than 6 in. in a year, very narrow, and very erect, and therefore never shading any adjoining plant injuriously; and it is besides very hardy and very beautiful. The wood is soft, but has a very fine grain; and it is much used by the shepherds of Switzerland and the Tyrol for carving those curious little figures of men and animals which are known all over Europe. The seeds produce oil abundantly, and the shells of the kernels yield a fine red colour. It is observed, that larger plants of *Pinus Cembra* may be transplanted than of any other kind of Pine or Fir.

### 324. Pinus Strobus.

### The Strobus, *or Weymouth* Pine.

Spec. Char.—Leaves slender, without sheaths. Male catkins small. Cone cylindrical, long and pendulous. *(Michx.)*

Hab.—A large tree. N. America.

Local.—Upper and Lower Dell.

Descript.—Height 50—80 ft. Introd. 1705. Flowering in April, and ripening its cones in Oct. of the second year.

Obs.—The wood of this tree is remarkably white when newly sawn into planks; whence the common American name for it of white pine. This species forms the connecting link between the pine and the larch

tribe, and is the tallest tree of the genus. The bark is smooth and elegant, and the leaves numerous, soft, and of a bluish green. The timber is imported in vast quantities under the name of white pine; it is much used in house carpentry, but is considered less durable than the red deal of Norway (*P. sylvestris*), or the pitch pine of Canada (*P. resinosa*).

### 325. Pinus (S.) Lambertiana.

The *gigantic Weymouth, or* Lambert's, Pine.

Spec. Char.—Leaves in fives, rigid, roughish; sheaths very short. Cones thick, very long, cylindrical; scales loose, roundish. (*Douglas.*)

Hab.—A gigantic tree. The Rocky Mountains of California.

Local.—Near the statue Jupiter.

Descript.—Height 150—200 ft. Introd. 1827.

Obs.—A gigantic and handsome pyramidal-shaped Pine, with pendulous branches and drooping cones. The resin which exudes from trees of this species, when they have been partly burnt, loses its usual flavour, and becomes so sweet that it is used by the natives of California instead of sugar.

### 326. Pinus (S.) excelsa.

The lofty *Weymouth, or Bhotan,* Pine.

Spec. Char.—Leaves in fives, very long and slender, loose. Crest of the anthers roundish, truncate; simple, lacerated. Cones cylindrical, smooth, pendulous, longer than the leaves. (*Wall.*)

Hab.—A large tree. Nepal, on mountains.

Local.—Upper Lawn, and Upper Dell.

Descript.—Height 90—120 ft. Introd. 1823. It flowers in May, and ripens its cones in the autumn of the second year. Leaves rather more than 6 in. long.

Obs.—Pinus *excelsa* is an Indian Pine, which the Hindoos call "The King of the Pine and Fir tribe." It forms a very lofty and beautiful tree, remarkable for its drooping branches, from which peculiarity it has been called the "Weeping Fir," by travellers in the Himalayas. It yields a great quantity of turpentine, and its timber is said to be excellent.

## ABIES. The Spruce Fir.

*(Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—The same as Pinus; but with the *cones* pendent, and less decidedly grouped; the *strobiles* cylindrically conical; the *carpels* not thickened at the tip; and the *leaves* solitary, partially scattered in insertion, and more or less 2-ranked in direction. *Carpels* and bracteas adhering to the axis of the strobiles. *(D. Don.)*

*Derivation.*—From *abeo*, to rise: alluding to the aspiring habit of growth of the tree: or, according to some, from *apios*, a pear tree; in allusion to the form of the fruit.

Evergreen trees; natives of Europe, Asia, and America; remarkable for their tall, erect, pyramidal forms, and profusion of foliage.

### Sect. 1. *Leaves tetragonal, awl-shaped, scattered in insertion.*

#### 327. Abies excelsa.

The lofty, *or Norway,* Spruce Fir.

Spec. Char.—Leaves scattered, quadrangular. Cones cylindrical, terminal, pendent; scales naked, truncate at the summit, flat. *(Lois.)*

Hab.—A lofty tree. N. Europe, more particularly Norway.

Local.—Frequent. Upper Dell, bankside.

Descript.—Height 80—100 ft. Introd. 1548. It

flowers in May; its cones are ripened in the spring of the following year.

Obs.—The Norway Spruce Fir is a very lofty tree, but some of its varieties are not larger than shrubs. It is the tallest European tree, attaining the height of from 120 to 150 ft., and sometimes even to 180 ft.; with an erect, straight trunk, never of proportionate thickness to its height. The best tree in the world for masts of ships is the Scotch Pine; and the best for ship's yards, the Norway Spruce. It will grow in almost any soil and situation, and is a most valuable timber tree. From its habit of growing perfectly straight and erect, it is well adapted for masts, spars, scaffolding, poles, &c.; for which purpose it is imported into this country largely from Norway, chiefly in the form of entire trunks, and when sawn into planks or deals, is known in common as white deal, white Baltic deal, and white Christiana deal; the wood having a red hue, only when the tree is grown in certain soils and situations. It is peculiarly valuable as a nurse in plantations, from being evergreen and closely covered with branches, by which radiated heat is retained, and from its being an excellent shelter for the most valuable game. Neither is it the least ornamental of trees. By incisions, it yields a resin; from which, by various preparations, turpentine and Burgundy pitch are formed. The tops or sprouts give the flavor to what is called spruce beer.

Var. 1. *A. e. Clanbrasiliana.*—Lord Clanbrasil's Spruce Fir. A low, compact, round bush; well adapted for rock-work or a lawn. Local.—Near the Statue Jupiter.

Var. 2. *A. e. acutissima.*—Local.—Upper Dell.

## 328. Abies Khutrow.
## The Himalayan Spruce Fir.

Spec. Char.—Leaves compressed, tetragonal, straight, awl-shaped, sharp-pointed. Cones ovate-oblong; scales obovate-roundish, coriaceous, rigid, smooth on the margin. (*D. Don.*)

Hab.—A pyramidal, drooping-branched tree. Himalayas.

Local.—Upper Dell.

Descript.—Height 50—80 ft. Introd. 1818.

Obs.—Known also by the name of Abies *Smithiana*, and Abies *Morinda*. It is found quite hardy in Britain, is very ornamental, and grows as rapidly as the common spruce; to which it bears a very close general resemblance. A fine specimen of this tree may be seen in the Lansdown cemetery.

### 329. Abies Menziesii.

Menzie's, *or the warted-branched*, Spruce Fir.

Spec. Char.—Leaves acute, flat; silvery beneath, turned in every direction. Cones cylindrical; scales scarious, gnawed on the margin. (*D. Don.*)

Hab.—A tall, pyramidal-shaped tree. N. California.

Local.—Near the Statue Jupiter.

Descript.—Height 60—70 ft. Introd. 1831.

Obs.—A tree with the general appearance of A. *Douglasii*. It forms a very handsome pyramidal-shaped tree, with regular branches, which are tubercled and thickly clothed with leaves, the under side of the leaves being conspicuously marked with silvery lines. The name was given to the plant in compliment to the late Archibald Menzies, Esq., the indefatigable botanist who accompanied Vancouver round the world. It appears to be peculiarly suited to the climate of Britain. The wood is described by Douglas to be of an excellent quality.

### Sect 2. *Leaves flat, generally glaucous beneath, imperfectly 2-rowed.*

### 330. Abies Douglasii.

The *trident-bracted or* Douglas's Spruce Fir.

Spec. Char.—Leaves flat, blunt, entire, pectinate, silvery beneath. Cones ovate-oblong. Bracteas elongated, linear, 3-pointed. (*D. Don.*)

Hab.—A tall, conical tree. N. America.

Local.—Upper Dell.

Descript.—Height 100—180 ft. Introd. 1826. Flowers in May, and its cones are matured in June or July of the following year.

Obs.—Discovered by Menzies in 1797, but introduced by Douglas in 1826. It is decidedly one of the most ornamental of the American Firs, and is of very rapid growth. The bark abounds with a clear yellow resin; and its timber is said to be heavy, firm, very durable, and not at all liable to warp. This very beautiful Spruce Fir was named in honor of the late Mr. David Douglas, through whose exertions, while acting as the botanical collector to the Horticultural Society of London, many of the most ornamental kinds of Pines and Firs were introduced into this country. See Cratægus Douglasii.

### 331. Abies canadensis.

### The Canada *Pine or Hemlock* Spruce Fir.

Spec. Char.—Leaves solitary, flat, slightly denticulate, obtuse, 2-ranked. Cones oval, terminal, pendent, naked, scarcely longer than the leaves. (*Lois.*)

Hab.—A tall tree. N. America.

Local.—Upper Dell; and upper boundary.

Descript.—Height 60—80 ft. Introd. 1736. It flowers in May and June, and its cones are matured in the June of the following year.

Obs.—The Hemlock Spruce Fir in Europe is a very elegant tree, with gracefully drooping branches and light foliage; but we are told that in America the large limbs are frequently broken off by snow resting on its branches. The wood is said to be brittle, but its bark is highly esteemed in America for tanning. In England, it forms one of the most ornamental of the fir family; being among needle-leaved evergreen trees, what the weeping willow is among the willows. It is moreover valuable as growing under the shade or drip of trees.

### 332. Abies Brunoniana.

The bushy *Alpine* Spruce Fir.

Spec. Char.—Leaves solitary, linear, obtuse, mostly on one side of the branches; glaucous beneath, denticulated. Cones ovate, terminal, solitary; bracteoles wedge-shaped, plicate, emarginate, glabrous. (*Lamb.*)

Hab.—A dense and very bushy tree. Nepal.

Local.—Bank side, Upper Dell.

Descript.—Height 70—80 ft. Introd. 1838.

Obs.—This species (known also by the name of Abies *dumosa*) has much of the character of Abies *canadensis*, but is, perhaps, even more ornamental, from the agreeable contrast afforded by the silvery appearance of the under side of the leaves to the green of the upper. It was discovered by Capt. Webb, and named Brunoniana by Dr. Wallich, in honour of Mr. Brown; the specific name given to it by some, of *dumosa*, refers to the bushy habit of the tree, and *decidua* to its deciduous leaves.

## PICEA. The Silver Fir.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—The same as in Pinus and Abies, but differing in having the cones erect. Strobile cylindrical, with its carpels not thickened at the tip. Both carpels and bracteas separate from the axis of the strobile. The leaves are obviously 2-ranked in direction. (*G. Don.*)

*Derivation.*—From *pix*, pitch; the tree producing abundance of resin. The name of Silver Fir alludes to the silvery whiteness of the under side of the leaf.

### 333. Picea pectinata.

The Comb-like *leaved* Silver Fir.

Spec. Char.—Leaves solitary, flat, obtuse; 2-ranked, with their points turned up. Cones axillary, cylindrical,

erect; scales with a long dorsal bractea. Anthers with a short crest, with two teeth. *(Lois.)*

HAB.—A lofty tree. Central Europe.

LOCAL.—Frequent. Near the Statue Jupiter.

DESCRIPT.—Height 80—150 ft. Introd. 1603. Buds short, egg-shaped, blunt, of a reddish yellow. Flowers in May, and the cones are matured in the Oct. of the following year.

OBS.—Picea *pectinata* is considered the noblest tree of its genus in appearance, though very stiff and formal in its growth; and the only one worthy of cultivation in Britain for its timber. The wood is used for planks and carpentry of all kinds, for the masts of small vessels, for joists and rafters, and for building the boats used for navigating rivers. It is more prolific in resinous matter than any other tree of the fir kind, from which Strasburgh turpentine, colophony, and white pitch are manufactured.

### 334. PICEA CEPHALONICA.

### The Cephalonian Silver Fir.

SPEC. CHAR.—Cones erect. Leaves subulate, flat; dark green above, silvery beneath; mucronate. Petioles very short, dilated lengthwise at the point of their attachment to the branches.

HAB.—A tree. Cephalonia.

LOCAL.—Upper dell.

DESCRIPT.—Height 50—60 feet. Introd. 1824, by Gen. Sir Chas. James Napier, then Governor of Cephalonia.

OBS.—This is a very handsome species. The leaves are bristle-pointed and have dilated petioles, and may be described as dagger-shaped, or as resembling miniature bayonets. They are equally and closely distributed over the branches; and, being almost without

footstalks, and broad at the base in proportion to their length, they give the branches much the appearance of Araucaria *brasiliana*. The timber is said to be hard, and of great durability.

### 335. Picea Nordmanniana.
### Nordmann's Silver Fir.

Spec. Char.—Leaves solitary, curved upwards, of unequal length. Strobiles erect, ovate. Bracts cuneate, reflexed at the apex.

Hab.—An evergreen tree. North of Asia.

Local.—Bank side, near the statue Jupiter.

Descript.—Height 80—90 ft. Introd. 1848.

Obs.—A very beautiful species. It forms a striking contrast to P. *cephalonica*.

### 336. Picea Pinsapo.
### The Pinsapo Silver Fir.

Spec. Char.—Leaves disposed around the branches, from 3 to 5 lines long, nearly terete, and entire at the apex. Cones ovate, with the bracts concealed by the scales or carpels. *(Bois.)*

Hab.—A tree. Spain.

Local.—Upper Dell.

Descript.—Height 60—70 ft. Introd. 1839.

Obs.—The Pinsapo Silver Fir is a remarkably handsome species, and is easily distinguished from all other kinds, from the leaves being cylindrical, and disposed round the branches. It grows very slowly, and has a compact, dwarf, set and stately appearance, which gives it a very singular effect, likened by some to a chandelier, rendering it quite distinct. From a general resemblance to the P. *cephalonica* it is often mistaken for it. This plant is perhaps altogether the most elegant and beautiful of the Fir tribe.

### 337. Picea Pichta.
### The Pitch Silver Fir.

Spec. Char.—Leaves solitary, tetragonical, dark green. Cones cylindrical, erect. Scales cuneate-obovate, rounded at the apex, quite entire, convex externally. (*Ledeb.*)

Hab.—A tree of the middle size. Siberia.

Local.—Upper Dell.

Descript.—Height 30—50 feet. Introd. 1820.

Obs.—Suspected by Professor Don to be only the Siberian variety of Picea *pectinata*, which ranges from the Altantic to the Pacific, as it differs from it in a young state, chiefly in having the leaves closer set or crowded on the branches, and not so silvery beneath. It is a very beautiful and most ornamental kind.

### 338. Picea balsamea.
### The Balm *of Gilead, or American*, Silver Fir.

Spec. Char.—Leaves solitary, silvery beneath, apex emarginate or entire; somewhat recurved and spreading. Cones cylindrical, violet-coloured; and pointing upwards. (*Michx.*)

Hab.—A pyramidal tree. N. America.

Local.—Near the statue Jupiter.

Descript.—Height 20—30 ft. Introd. 1696. Buds rounded, very smooth, and entirely covered with a dark, shining varnish.

Obs.—The Balm of Gilead Fir is frequent in ornamental plantations. It is a tree of more delicate habits than the Picea *Pectinata*. Its timber is of little value, sometimes used in America for the staves of casks for packing fish. The balm or resin procured from it possesses no medical properties superior to those of common turpentine, and is sold in England and in the United States under the name of "Balm of Gilead," or "Canada Balsam." During summer, the tree sends out

a pleasing terebinthinate odour. The true "Balm of Gilead" is produced by the Amyris *gileadensis.*

Var. 1. *P. b. Fraseri.* Fraser's Silver Fir. *Local.*—Bankside by the pathway, Upper Dell.

### 339. Picra amabilis.

### The lovely Silver Fir.

Spec. Char.—Leaves flat, obtuse, entire. Cones cylindrical; bracteoles very short, pointed. Scales triangular; the upper margin rounded, entire. (*G. Don.*)

Hab.—A tree. N. California.

Local.—Upper Dell.

Descript.—Height ——. Introd. 1831.

Obs.—A very beautiful and lovely species as its name implies, bearing a general resemblance to P. *Nordmanniana.*

### 340. Picea nobilis.

### The noble, *or large bracted,* Silver Fir.

Spec. Char.—Leaves mostly on one side of the branches, falcate, short, acute, silvery beneath. Cones cylindrical; the bracteoles elongated, spathulate, gnawed, and imbricated backwards. (*D. Don.*)

Hab.—A majestic tree, with cinnamon-coloured bark. N. California.

Local.—Upper Dell.

Descript.—Height 60—70 ft. Introd. 1831.

Obs.—P. *nobilis* is a very ornamental species, and its timber is said to be excellent. It is described as forming, in its native country, a majestic tree, with very singular looking cones, which are completely covered with their large reflexed bracts. It was of this species that the late Mr. Douglas, the botanical collector, said, "I spent three weeks in a forest composed of this tree, and, day by day, could not cease to admire it."

### 341. Picea Webbiana.

Webb's purple-coned Silver Fir.

Spec. Char.—Leaves 2-rowed, linear, flat, obtusely emarginate, silvery beneath. Cones cylindrical; scales kidney-shaped, roundish, bracteoles oblong, apiculate. (*D. Don.*)

Hab.—A large, handsome, pyramidal tree. Nepal.

Local.—Upper Dell.

Descript.—Height 80—90 ft. Introd. 1822. Buds round, pointless, thickly covered with a yellow resin.

Obs.—A very handsome species, having its cones covered with a purple bloom. The branches, which are numerous, spread horizontally, and are densely clothed with leaves disposed in whorls; covered with a pale, ash-coloured, rough, scaly bark; bent upwards at the apex. It is liable, from vegetating very early in the spring, to have its leading shoots pinched by the frost.

### 342. Picea Pindrow.

The Pindrow, *or Tooth-leaved*, Silver Fir.

Spec. Char.—Leaves 2-rowed, linear, flat, of the same colour on both sides; sharply 2-toothed at the apex. Cones oval; scales trapezoideo-cordate; bracteoles roundish, emarginate, irregularly crenulate. (*D. Don.*)

Hab.—A large tree. Kamaon.

Local.—Near the statue Jupiter.

Descript.—Height 80—100 ft. Introd. 1837. Leaves 3 in. long.

Obs.—Resembles P. *Webbiana*, and is liable to be confounded with it; but it is distinguished by the leaves being longer, narrower, and acutely bidented at the apex, and of nearly the same colour on both

surfaces, or less silvery on the under. Also by its shorter and thicker cones, with trapezoid-formed scales, and rounded notched bracteoles. Considered by some to be but a variety of the former species, P. *Webbiana*.

## LARIX. The Larch.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—The same as in Abies; but with the *cones* ovate, conical, erect; and the *carpels* and *bracteas* adherent to the axis. *(G. Don.)* It is moreover distinguished from the pines and firs by being deciduous, and by the leaves being in groups, or fascicles, of 6 or 8, or more.

*Derivation.*—From *lar*, fat, Celtic; the tree producing abundance of resin.

In Britain all the species are ornamental; but the following is the only one at all deserving of culture as a timber tree.

### 343. Larix europæa.

The European, *or common*, Larch.

Spec. Char.—Leaves fascicled, deciduous. Cones ovate-oblong; scales reflexed at the margin, lacerate; bracteoles panduriform. (*Willd.*)

Hab.—A tall, pyramidal, deciduous tree. Alps of the S. Europe.

Local.—Frequent. Upper Dell, bank side.

Descript.—Height 80—100 ft. Introd. 1629. Leaves linear, soft, 1 in. long. Flowering in March or April; and ripening its cones in the autumn of the same year.

Obs.—The common European species of Larch, forms a very handsome and ornamental tree; and, next to the Scotch pine, it is considered the most valuable. It is a good timber tree, being very durable, and when planted in a suitable or elevated situation, grows with such rapidity as to be very profitable. The bark of young larches is

astringent, and it is used in the Alps for tanning leather; where the leaves and young shoots are sometimes given to cattle. The resinous products of the larch are, Venice turpentine, and the manna de Briancon; and both are used in the state in which they are procured from it.

## CEDRUS. The Cedar.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—The same as in Larix; but with the *carpels* separating from the axis, and the *leaves* evergreen. *Cones* erect, large, solitary. *Anthers* crowned by an elliptical scabrous crest. *Carpels* coriaceous, compressed, deciduous.

*Derivation.*—Some suppose the word Cedrus to be derived from *Cedron*, a brook in Judea, on the banks of which the Cedar of Lebanon was once plentiful: others from *kaio*, I burn; from the wood of some of the kinds of cedar being burned as incense; and others, from the Arabic *kedroum*, or *kedre*, power; in allusion to the majestic form and dignified appearance of the Cedar of Lebanon.

Majestic evergreen trees, natives of Asia and Africa, with large spreading branches. The Cedar differs from the larch in being evergreen, and in the scales of the cones separating from the axis when ripe. The cones require two years to attain maturity, and remain on the trees for a year afterwards.

### 344. Cedrus Libani.

### The Cedar of Lebanon.

Spec. Char. — Leaves fascicled, rigid, evergreen, acute. Cones roundish. Scales truncate, adpressed.

Hab.—A large, spreading, evergreen tree. Levant.

Local.—Upper and Lower Lawn; also opposite the Farm House, and near the statue Jupiter.

Descript.—Height 50—80 ft. Introd. 1683. Flowers yellow; May. Cones purplish brown, ripening in the autumn of the third year, and remaining on the tree for several years.

Obs.—The Cedar of Lebanon is known to most persons from the frequent allusions made to it in Holy Writ. It is a tree of majestic beauty and is remarkable for the irregular grandeur of its form. The general character of its shoot, even when the tree is young, is singularly bold and picturesque, in a manner peculiar to itself and not equalled by any other tree in Britain, either indigenous or introduced. On a lawn, where the soil is good, the situation sheltered, and the space ample, it forms a gigantic pyramid, and confers dignity on the park and mansion to which it belongs; and it makes an avenue of unrivalled grandeur, if the trees are so far apart as to allow their branches to extend on every side. The great use of the Cedar is to plant singly on lawns, or in the margin and corners of plantations, where one or two specimens will give force and character to the dullest front of round-headed trees. When crowded with other trees, it takes a fastigiate habit, looking like an immense upright Cypress; but where it is allowed space, the branches, which are of a gigantic size, spread horizontally, and the tree assumes a somewhat pyramidal shape, the branches being disposed in distinct layers or stages, and diminishing in extent as they approach the top. The wood of the Cedar is of a reddish white, light and spongy, easily worked, but very apt to shrink and warp, and by no means durable.

Var. 1. *C. L. pendula.* Local.—Upper Lawn.

### 345. Cedrus Deodara.

### The Deodara, *or Indian,* Cedar.

Spec. Char.—Leaves fascicled, evergreen, acute, triquetrous, rigid. Cones twin, oval, obtuse, erect; scales adpressed. *(Lamb.)*

Hab.—A large evergreen tree. Nepal.

Local.—Lower Lawn, also opposite the Farm House and Upper Dell.

Descript.—Height 50—120 ft. Introd. 1822.

Obs.—The Deodara Cedar is a very lofty and graceful tree. It is perhaps, the most ornamental Coniferous tree ever introduced from the Himalayas into this country; and from its great beauty, rapid

growth, perfect hardiness, and valuable timber, it is exceedingly well-suited for being extensively planted in woods, parks, and pleasure-grounds. The Cedrus *Deodara* and the Araucaria *imbricata*, are fine illustrations of two opposite styles of beauty in landscape: the Deodara being of a growth and hue, light, airy, and graceful; and the Araucaria being dark, rich, and massive. The Deodara Cedar is particularly valuable for planting singly on lawns, and as an avenue tree. For the latter purpose, it probably surpasses any other that has yet been introduced. It differs from the Cedar of Lebanon in having the foliage, especially when young, glaucous, and the timber of full-grown trees, close-grained, hard, compact, heavy, and extremely durable. It is equally hardy with the Cedar of Lebanon, and has the same grand and picturesque character.

## 2. *Araucarieæ.*

### ARAUCARIA. The Araucaria.

*(Lin. Syst.* Dicœcia Monadelphia.)

Gen. Char.—*Male flower* with the pollen contained in from 10 to 20 cases, pendent from the apex of the scale. *Ovule* solitary, connate with the carpel or scale. (*G. Don.*)

*Derivation.*—From *Araucanos*, the name of the people in whose country Araucaria imbricata grows in Chili.

Magnificent evergreen trees, natives of America, Polynesia, and Australia; only one of which, the following, is hardy in the climate of Britain.

### 346. Araucaria imbricata.

The imbricate-*leaved* Araucaria, *or Chili Pine.*

Spec. Char.—Leaves in eights, imbricated, ovate-lanceolate, with persistent mucros. (*Pav.*)

Hab.—An evergreen tree. Chili.

Local.—Upper and Lower Lawn, and near the Statue Jupiter.

Descript.—Height 50—100 ft. Introd. 1796, and flowering from Sept. to Nov.

Obs.—A very remarkable and singular looking tree. It is very hardy and deserves especial notice from its noble and majestic style of growth, singular foliage, and peculiar dark colour. The wood is not only very strong and good, but it is full of beautiful veins, and is capable of being easily polished and worked. The seed, which resembles that of an almond, but is double the size, is reckoned wholesome food. When roasted, these seeds taste something like chestnuts.

### 3. *Sequoieæ.*

### SEQUOIA. The Bastard Cedar.

*(Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—See Taxodium, from which it was separated by the late Professor Endlicher, principally on account of the scales of the cones being stalked and many-seeded.

*Derivation.—*

### 347. Sequoia sempervirens.

### The Red-wood, *or Bastard* Cedar.

Spec. Char.—Leaves distichous, linear, acute, evergreen, coriaceous, glabrous, opaque. *(Lamb.)*

Hab.—A large evergreen tree. California.

Local.—Upper Dell.

Descript.—Height 200 ft. Introd. 1843.

Obs.—This species was discovered by Mr. Menzies, on the N. W. coast of America, in 1796; and immense trees of it were seen by Dr. Coulter, in 1836. The wood is of a beautiful red, fine and close-grained, but light and brittle; the boards, when seasoned, do not warp; and it is never attacked by insects. It grows with rapidity in almost any soil and situation, and is very ornamental.

## WELLINGTONIA. The Wellingtonia.

*(Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Strobilus* oblongus, ligneus; squamis numerosis, cuneatis, truncatis, per apophysin transverse (ob bracteam æquilongam omnino adnatum) sulcatis, mucrone in medio. *Semina* 7 cuique squamæ, supra medium pendula, compressa, utrinque alata. Folia alterna, juniperina. (*Lindl.*)

*Derivation.*—Named in honour of the late Duke of Wellington, by Dr. Lindley; who states, in reference to it in *The Gardners' Chronicle*, for Dec. 24, 1853, and from which the above character was taken, "Wellington stands as high above his contemporaries as the Californian tree above all the surrounding foresters. Let it then bear, henceforward, the name of Wellingtonia *gigantea*. Emperors and kings and princes have their plants, and we must not forget to place in the highest rank among them our own great warrior."

### 348. Wellingtonia gigantea.

The gigantic Wellingtonia.

Spec. Char.—See Gen. Char. The only species.

Hab.—A large evergreen tree. California.

Local.—Upper Lawn.

Descript.—Height 250—450 ft. Introd. 1853.

Obs.—"This magnificent evergreen tree, from its extraordinary height and large dimensions," observes Mr. W. Lobb, the collector, who introduced it into this country from California, in 1853, "may be termed the monarch of the Californian forest. It inhabits a solitary district on the elevated slopes of the Sierra Nevada, near the head waters of the Stanislan and San Antonio rivers, in lat. 38° N., lon. 120° 10′ W., at an elevation of 5000 ft. above the level of the sea. From 80 to 90 trees exist, all within the circuit of a mile, and these varying from 250 to 310 ft. in height, and from 10 to 20 ft. in diameter. Their manner of growth is much like the *Sequoia* (*Taxodium*) *sempervirens:* some are solitary, some are in pairs; while some, and not unfrequently, stand three and four together. A tree recently

felled, measured about 300 ft. in length, with a diameter, including the bark, 29 ft. 2 in., at 5 ft. from the ground; at 18 ft. from the ground it was 14 ft. 6 in. through, at 100 ft. from the ground, 14 ft.; and at 200 ft. from the ground, 5 ft. 5 in. The bark is of a pale cinnamon browu, and from 12 to 15 in. in thickness. The branchlets are round, somewhat pendent, and resembling a cypress or juniper. The leaves are of a pale grass green; those of the young trees are spreading, with a sharp acuminate point. The cones are about 2½ in. long, and 2 in. across at the thickest part. The trunk of the tree in question was perfectly solid, from the sap wood to the centre; and, judging from the number of concentric rings, its age has been estimated at 3000 years. The wood is light, soft, and of a reddish colour, like Redwood or *Sequoia* (*Taxodium*) *sempervirens*. Of this vegetable monster 21 ft. of the bark, from the lower part of the trunk, have been put in the natural form in San Francisco for exhibition: it there forms a spacious carpeted room, and contains a piano, with seats for forty persons. On one occasion 140 children were admitted without inconvenience." From an account by Dr. C. F. Winslow, given in the *Californian Farmer* (a weekly journal published at San Francisco), subsequently to that by Dr. Lindley, from which the above is a quotation, we learn that the dimensions recorded by Mr. Lobb do not give us the full height to which this splendid conifer attains, by more than 100 ft., one specimen having been found measuring 450 ft. from its head to its root! This specimen is said to have been 10 ft. in diameter at 350 ft. from its uptorn root! We learn further, from Dr. Winslow's observations, that the locality in which this gigantic tree is found, seems to be confined to an area of a few acres; and that the soil and atmosphere of the place of growth are singularly humid. (*Loudon's Encyclopædia of Plants, Edition* 1855. *Supplementary List, page* 1547.)

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## Sect. III. Podocarpeæ.

## PODOCARPUS. The Podocarpus.

(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Male.* Calyx-leaflets of the bud imbricated. *Anthers* many, adnate, bilocular, rostrate, fixed

to the lengthened column of the filament. *Female.* An ovate 1-celled nut, half immersed in a firm receptacle. (*Lindl.*)

*Derivation.*—From *pous*, a foot, and *karpos*, a fruit; in allusion to the footstalks of the fruit.

### 349. Podocarpus Totarra.
### The Totarra Podocarpus.

Spec. Char.—Leaves linear-lanceolate, mucronate, glaucous beneath. (*G. Don.*)

Hab.—An evergreen tree. New Zealand.

Local.—Near the statue Jupiter.

Descript.—Height 60—90 ft. Introd. 1840.

Obs.—This species is one of the best timber trees of New Zealand, and is regarded with great esteem by the natives. The wood is used to construct canoes, it being light, tough, and durable, of a red colour, and capable of receiving a high polish. It is said, the possession of these trees has been the cause of wars among the savage natives.

## SAXE-GOTHÆA. The Saxe-Gothæa.
(*Lin. Syst.* Monœcia Monadelphia.)

Gen. Char.—*Anthers* of male flowers spicate. *Female* cones imbricate. *Scales* acuminate, monospermous below the middle. *Seed* nucamentaceus, triangular. (*G. Don.*)

*Derivation.*—Named in honour of Prince Albert.

### 350. Saxe-Gothæa conspicua.
### The conspicuous Saxe-Gothæa.

Spec. Char.—Habit of Yew. Leaves linear, flat, apiculated, marked by a pale double line beneath. (*G. Don.*)

Hab.—An evergreen tree. Patagon.

Local.—Near the statue Jupiter.

Descript.—Height 30 ft. Introd. 1846.

Obs.—A very beautiful plant, somewhat resembling the Yew.

## DACRYDIUM. The Dacrydium.

(*Lin. Syst.* Dicœcia Monadelphia.)

Gen. Char.—*Male* catkin ovoid, girded by imbricating bracts at base. *Stamens* numerous, imbricate. (*G. Don.*)

*Derivation.*—From *dakry*, a tear; in allusion to the gummy exudation which appears on the leaves and branches.

This genus consists of tall evergreen timber trees, mostly natives of New Zealand.

### 351. Dacrydium Franklinii. The Huon Pine.

Spec. Char.—Branches tetragonal. Leaves small, opposite, adpressed, ovate-acuminate, keeled.

Hab.—A large evergreen tree. Tasmania, Van Dieman's Land.

Local.—Lawn near the Brock St. Entrance.

Descript.—Height 80—100 ft. Introd. 1844.

Obs.—A noble timber tree, growing in swampy places, of a pyramidal form, attaining the height of about 100 ft., with a trunk 25 ft. in circumference. "The branches from the trunk are nearly horizontal, and are clothed with numerous slender, pendent, scaly branchlets, of a lively green, serving the purpose of leaves, as in the Cypress and Arbor Vitæ. The wood, which is much valued for ship-building and general purposes, is closer-grained and more durable than White American Pine, and has an aromatic smell. It forms the principal article of exportation from Macquaria Harbour; 2869 logs, 40 or 50 ft. long, were collected in one year, from different spots near the neighbourhood."

## Sect. IV. Taxineæ.

## SALISBURIA. The Salisburia.

(*Lin. Syst.* Monœcia Polyandria.)

Gen. Char.—*Male flowers* in naked catkins, without calyx or corolla. Anthers imbricated. *Female flowers* with the calyx quadrifid. Drupe with a 3-cornered nut. (*Lindl.*)

*Derivation.*—Named in honour of *R. A. Salisbury*, F. R. S.; L. S. &c., a distinguished botanist.

### 352. Salisburia adiantifolia.

The Maiden-hair-leaved Salisburia.

Spec. Char.—See Gen. Char. The only species.

Hab.—A large conical deciduous tree. Japan and China.

Local.—Western end of the border, Lower Lawn.

Descript.—Height 60—80 ft. Introd. 1754. Flowers yellowish. Decaying leaves yellow, or yellowish green.

Obs.—The Japanese name of this plant is Gingko Tree. It is remarkable for its fan-shaped leaves, which resemble the fronds of the Maiden-hair fern. The tree is very ornamental, and it grows to a large size; its wood is of a yellowish white, and not hard.

## CEPHALOTAXUS. The Cephalotaxus.

(*Lin. Syst.* Dicœcia Monadelphia.)

Gen. Char.—*Male* catkins axillary, capitate, propped by bracts. *Stamens* 4—6 or more, in each scale. *Female* catkins from the axils of the shoots of the present year. *Fruit* 2—3 in each head, drupaceous, adnate to a closed fleshy urceolus. (*G. Don.*)

*Derivation.*—From *Kephale*, head, *taxus*, yew; having the habit of yew, with globular aments.

The species are remarkable for their large revolute leaves, which are of a silvery, glaucous hue on the under side.

### 353. Cephalotaxus pedunculata.

### The *Earl of* Harrington's Yew.

Spec. Char.—Leaves distichous, flat, 1½ inch long, green above and glaucous beneath, except on the midrib and revolute edges, where they are green, mucronate on short footstalks. (*Forbes.*)

Hab.—An evergreen tree. Japan.

Local.—Western end of the border, Lower Lawn.

Descript.—Height 20—30 ft. Introd. 1837.

Obs.—A very beautiful plant, named after the late Earl of Harrington, who formed a superb collection of the finest Conifers, at Elvaston Castle, where they are planted in rich profusion, and with so much taste and judgment, as to produce the most surprising effect.

## TAXUS. The Yew.

(*Lin. Syst.* Dicœcia Monadelphia.)

Gen. Char.—*Male flower. Perianth* single at the base. *Stamens* numerous. *Anthers* peltate, 6—8-celled. *Cells* opening beneath. *Female flowers. Perianth* single, urceolate, scaly. *Style* none. *Drupe* fleshy, perforated at the extremity. (*Lindl.*)

*Derivation.*—From *toxon*, a bow; being formerly much used in making them: or from *taxis*, arrangement; from the leaves being arranged on the branches like the teeth of a comb: or from *toxicum*, poison; though Pliny says that poison *(toxicum)* was so named from this tree, which was considered poisonous. The derivation of the term Yew is supposed to be from the Celtic word *iw*, sometimes pronounced *if*, and signifying verdure; alluding to the yew being an evergreen: and this will also explain the French name, *if.*

### 354. Taxus baccata.

### The berried, *or common,* Yew.

Spec. Char.—Leaves thickly set, linear, distichous, flat. Male receptacles globose.

Hab.—An evergreen tree. Britain, in mountainous woods.

Local.—Frequent. South side of the road between the Obelisk and Pond.

Descript.—Height 20—30 ft. Flowers white; March and April. Fruit red; ripe in Sept.

Obs.—The Yew, when allowed to take its natural shape, and when advanced to a considerable age, forms one of the handsomest of British evergreens, harmonizing admirably with the holly, the box, and the juniper. It has been called the "Churchyard tree," from its prevalence in burial grounds. Ray says that our ancestors planted the yew in church-yards because it was an evergreen tree, as a symbol of that immortality which they hoped and expected for the persons there deposited. Hence a custom, which still exists in a few places of Wales and Ireland, of carrying twigs of this and other evergreen trees in funerals, and throwing them into the grave with the corpse. According to some, the yew was planted in church-yards on account of its utility in making bows; but this is by no means likely, when the tree was so common in a wild state, and when a single one would have afforded so very scanty a supply.

As an avenue tree, the yew may be considered suitable for approaches to cemeteries, mausoleums, or tombs; and as a single tree, for scattering in church-yards, and burial grounds.

The wood being of extremely slow growth, is hard and tough, formerly highly valuable for making bows, but now chiefly used for fine Cabinet-work, or inlaying. It makes handsomer chairs than many expensive exotic woods. The leaves are fetid, and very poisonous, and prove speedily fatal to cattle accidentally tasting them, when young and tender. The berries have a sweet mawkish taste, and may be eaten without danger. The longevity of the yew is very great, as the Ankerwyke Yew, near Staines, is supposed to be upwards

of 1000 years old. Henry VIII., is said to have made it his place of meeting with Anna Boleyn, while she was living at Staines. The following lines on this tree are quoted by Strutt:—

"What scenes have pass'd, since first this ancient yew,
In all the strength of youthful beauty grew!
* * * * * * *
Here too, the tyrant Henry felt love's flame,
And, sighing, breathed his Anna Boleyn's name.
Beneath the shelter of this yew tree's shade,
The royal lover woo'd the ill starr'd maid:
And yet that neck, round which he fondly hung,
To hear the thrilling accents of her tongue;
That lovely breast, on which his head reclin'd,
Form'd to have humanised his savage mind;
Was doom'd to bleed beneath the tyrant's steel,
Whose selfish heart could doat, but could not feel."

The most extraordinary collection of yew trees in England, or perhaps in the world, is at Elvaston Castle, near Derby.

The following varieties are found in the Park.

VAR. 1. *T. b. variegata aurea.* The golden, or yellow-striped, common yew. LOCAL.—Near the Brock Street entrance, and by the Statue Jupiter.

VAR. 2. *T. b. variegata alba, or elegantissima.* The silver, or white-striped, common yew. LOCAL.—Near the statue Jupiter.

VAR. 3. *T. b. erecta.* The upright branched, common yew. LOCAL.—Lawn between the Obelisk and Pond.

VAR. 4. *T. b. horizontalis.* The horizontal branched, common yew. LOCAL.—Roadside opposite the Lower Dell, and also near the entrance to the Hort. Gard.

VAR. 5. *T. b. Dovastonii.* The Dovaston, or weeping variety of the common yew. LOCAL.—Border Lower Lawn, and Upper Dell.

VAR. 6. *T. b. adpressa.* The adpressed-leaved variety of the common yew. LOCAL.—Near the Circus hand-gate.

VAR. 7. *T. b. fastigiata.* The fastigiate, or Irish yew. LOCAL.—Upper Dell, and near the Brock Street entrance, by the Mulberry Tree. A very handsome variety, with intensely dark green leaves, and the general form of the cypress. It is well adapted to give depth to pieces of water and rocky scenes, as also for cemetries.

## Class II. ENDOGENÆ.

*Stems increasing from within; Leaves with parallel Veins.*

### Sub-Class I. PETALOIDEÆ or FLORIDEÆ.

#### 1. Epigynæ.

### Order LIII. AMARYLLIDACEÆ.

#### The Amaryllis Tribe.

Char.—*Perianth* coloured, limb 6-parted or 6-cleft, sometimes with a corona. *Stamens* 6, inserted at the bottom of segments, sometimes united by a membrane. *Anthers* introse. *Stigma* 3-lobed. *Fruit* a 3-celled, 3-valved, loculicidal capsule, with many seeds; or a berry with 1—3 seeds, spermoderm not crustaceous. *Albumen* fleshy. *Embryo* with radicle next the hilum. (*Balfour.*)

Bulbous, sometimes fibrous-rooted plants, with ensiform leaves, and showy flowers, which are mostly spathaceous and on scapes. Natives of various parts of the world, but attaining their maximum at the Cape of Good Hope. Many of the species have poisonous properties. Some are emetic and purgative, and some yield useful fibres.

### AGAVE. The Agave.

*(Lin. Syst.* Hexandria Monogynia.)

Gen. Char.—*Flower* erect, tubular, or funnel-shaped. *Filaments* longer than the flower, erect. *Capsule* triangular, many-seeded. *(Lindl.)*

*Derivation.*—Altered from a Greek word signifying admirable, which this genus may well be said to be, considering its appearance, its size, and the beauty of its flowers. In mythology, Agave is the name of one of the Nereids.

All the species of this genus greatly resemble each other, and it is doubted whether in the works of several travellers, different species of Agave, Aloe, and even Bromelia, are not confounded in their descriptions of their uses.

### 355. Agave americana.

### The American Aloe.

Spec. Char.—Stemless. Leaves toothed, spiny, Scape branched. Tube of the corolla contracted in the middle. Filaments longer than the corolla. *(Lindl.)*

Hab. An evergreen shrub. S. America.

Local.—

Descript.—Height 2—10 ft. Introd. 1640. Flowers yellow; August and Sept. The leaves are thick, succulent, and spinous; and sometimes striped with different shades of white, yellow and red.

Obs.—A very ornamental and popular succulent throughout Europe. An idea still prevails in the minds of some that the American Aloe only flowers once in a hundred years; but, independently of this unnatural application of time to the inflorescence, it has long been known to flower sooner or later, according to the culture bestowed on it. Many have flowered within these few years in this country; and if the plant had the same treatment as the pine apple, it would probably flower nearly as often. The leaves are useful as a succedaneum for soap, and their fibres which make a strong thread for common uses, constitute Pita Flax.

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## 2. Hypogynæ.

## Order LIV. LILIACEÆ.

### The Lily Tribe.

Char.—*Perianth* regular, 6-parted. *Stamens* 6, opposite the segments, and inserted in their bases. *Ovarium* free. *Style* 1. *Capsule* 3-celled, 3-valved,

with a loculicidal dehiscence. *Seeds* many, generally flat, packed one above another, in one or two ranks; testa spongy or dilated. *Albumen* fleshy. *Embryo* straight, having the radicle next the hilum. (*G. Don.*)

Mostly evergreen shrubs; natives of Europe, Asia, and America.

## RUSCUS. The Butcher's Broom.

(*Lin. Syst.* Dicœcia Triandria.)

Gen. Char.—*Perianth* 6-parted. *Stamens* 6, monadelphous, antheriferous in the male flowers, but naked in the female ones. *Style* 1. *Berry* globose, 3-celled, cells 2-seeded. (*G. Don.*)

*Derivation.*—It is said to have been anciently called Bruscus, from *beux*, box, and *kelem*, holly, in Celtic, box holly; or from *buxus*, box. Some suppose it to be derived from *russus*, flesh-coloured: alluding to the colour of the fruit. The word *ruscus* was, however, applied to any prickly plant by the ancient Romans, as ruscus sylvestris, the holly, &c.

Low shrubs, with obscure flowers, succeeded by red berries, like those of the asparagus.

### 356. Ruscus aculeatus.

The prickly, *or common*, Butcher's Broom.

Spec. Char.—Leaves ovate, sharp-pointed, flowering on the upper side, without a leaflet. (*Smith.*)

Hab.—An evergreen, suffrutescent plant. Britain, in woods.

Local.—City entrance, and near the Farm-house. Frequent.

Descript.—Height 1—3 ft. Flowers greenish-white; March and April. Berries scarlet.

Obs.—The female plant is very ornamental, from the flowers being succeeded by red berries, almost as large as some cherries; they are sweet tasted, with two large orange-coloured seeds in each. Both the male and the female plant should be set together to produce fruit. The green shoots were formerly used by butchers for sweeping their blocks, whence the common English name of the plant. It is still made into besoms in Italy. It is also used in London, by the manufacturers of cigars, &c., for sprinkling the saline liquor over the tobacco leaves. The tender young shoots, in spring, are sometimes gathered and eaten by the poor, both in England and France, like those of asparagus. In landscape gardening the plant is valuable as an evergreen, which will grow under the shade and drip of other trees. It harmonizes well with Daphne Laureola, Ulex nana, and Vaccinium vitis idæa.

### 357. Ruscus racemosus.

### The Alexandrian Laurel.

Spec. Char.—Flowers hermaphrodite, produced at the ends of the branches. (*Willd.*)

Hab.—A low evergreen shrub. Portugal.

Local.—By the railing at the City entrance.

Descript.—Height 4 ft. Introd. 1739. Flowers greenish yellow; May. Berries red, with a round coriaceous white disk at the base.

Obs.—An elegant evergreen shrub, by some supposed to be the plant with which the ancients crowned their victors; but the more general opinion is in favor of Laurus nobilis.

## YUCCA. The Yucca, *or*, Adam's Needle.

(*Lin. Syst.* Hexandria Monogynia.)

Gen. Char.—*Perianth* campanulate, 6-parted, regular. *Stamens* 5, thickest at top. *Anthers* small. *Stigmas* sessile. *Capsule* oblong, bluntly trigonal; 3-celled, 3-valved, many-seeded. *Seeds* flat. (*G. Don.*)

*Derivation.*—The name of the plant in Peru.

Evergreen shrubs, with the habit of palm trees; and broad lily-like leaves terminating in sharp points, and large white flowers: natives of N. and S. America, chiefly on the sea coast. The species are considered highly desirable from their palm, or oriental pine-apple, or aloe character, and as being evergreen. For this reason, they make a striking contrast in gardens and shrubberies with European shrubs. They grow slowly, and do not flower freely. All the species are most ornamental.

### 358. Yucca gloriosa.

### The glorious Yucca *or Adam's Needle.*

Spec. Char.—Leaves quite entire.

Hab.—A low, evergreen shrub. America.

Local.—Lawn facing the back of Brock St., and opposite Dell.

Descript.—Height 2—10 ft. Introd. 1596. Flowers white; July and August. The leaves are broad and stiff, but thin: they are of a very dark green, and end in a sharp black spine. The flowers are in large panicles, bell-shaped, and hang downwards; and each petal is white within, with a purple stripe on the outside.

Obs.—This species is also called the 'Superb Yucca,' from the magnificence and beauty of its flowers and foliage, although there is a variety of it by this latter name. It has, like its kindred, a very showy and majestic appearance, and is most ornamental to a lawn in front of a mansion. The fibres of the leaves are used by the Indians to make a kind of cloth, and also cords, which they use to fasten their houses together, and to make their swing beds, called hammocks. At Carthagena, a starch, or rather glue, is made from the stem, which may be eaten or made into paste.

### 359. Yucca recurvifolia.

### The recurved-leaved Yucca.

Spec. Char.—Leaves recurved, deflexed, with a few threads.

Hab.—An evergreen shrub. Georgia, on sandy shores.

Local.—Near the City entrance and Western end of the Upper Lawn.

Descript.—Height 3 ft. Introd. 1794. Flowers greenish yellow, with a tinge of purple; July, August, and September.

Obs.—This species is frequently mistaken for the former, (Y. *gloriosa,*) but an attention to the specific character will at once distinguish them. They are both perhaps equally ornamental.

### 360. Yucca flaccida.

### The flaccid-leaved Yucca.

Spec. Char.—Leaves all very flaccid, weakly recurved, with very strong, brownish threads.

Hab.—A low evergreen shrub. Georgia.

Local.—Dell, by the Lime tree walk. Near it is also a Yucca *gloriosa.*

Descript.—Height 1—2 ft.; of the flower stems, 3—5 ft. Introd. 1816. Flowers pale yellow; July.

Obs.—A very pretty species, well marked by its thread-edged, scabrous leaves, and pale yellowish-white flowers.

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In conclusion, here may be added, the exquisitely beautiful lines of Sir Richard Blackmore—

> "Your contemplation farther yet pursue;
> The wondrous world of vegetables view!
> Observe the forest oak, the mountain pine,
> The lowering cedar, and the humble vine,

The bending willow, that o'ershades the flood,
And each spontaneous offspring of the wood!
The oak and pine, which high from earth arise,
And wave their lofty heads amidst the skies,
Their parent earth in like proportion wound,
And through crude metals penetrate the ground;
Their strong and ample roots descend so deep,
That fixed and firm, they may their station keep,
And the fierce shocks of furious winds defy,
With all the outrage of inclement sky.
But the base brier, and noble vine,
Their arms around their stronger neighbour twine.
The creeping ivy, to prevent its fall,
Clings with its fibrous grapples to the wall.
Thus are the trees of every kind secure,
Or by their own, or by a borrowed power.
But every tree from all its branching roots
Amidst the glebe, small hollow fibres shoots,
Which drink with thirsty mouths the vital juice,
And to the limbs and leaves their food diffuse:
Peculiar pores peculiar juice receive,
To this deny, to that admittance give.
  Hence various trees their various fruits produce,
Some for delightful taste, and some for use.
Hence sprouting plants enrich the plain and wood,
For physic some, and some designed for food.
Hence fragrant flowers, with different colours dyed,
On smiling meads unfold their gaudy pride.
  Review these numerous scenes; at once survey
Nature's extended face, then, sceptics, say—
In this wide field of wonders can you find
No art discovered, and no end design'd?"

# GLOSSARY.

Acerose. Slender, or needle-shaped.

Achenium. A dry fruit, which does not open when ripe, and contains one seed, not adhering to the pericarp.

Acuminated. Having a taper point.

Adnate. Grown to for its whole length.

Adpressed, or Appressed. Closely applied to a surface, as some leaves.

Æstivation. The folding of the parts of a flower in the bud.

Albumen. The solid farinaceous part of the seed, destined to nourish the embryo.

Ament. A catkin, or inflorescence, consisting of chaffy scales, arranged along a thread-like receptacle.

Amentaceous. Producing or bearing aments.

Androgynous. Producing flowers of both sexes on the same plant.

Angiospermous. Having seeds contained in a seed-vessel.

Antheriferous Furnished with anthers.

Anther. The part of the stamen which contains the pollen.

Apetalous. Without petals.

Apicarp. See Epicarp.

Apiculated. Terminated in a little point, or prickle.

Arborescent. Having a tendency to become a tree.

Aril, Arillus. An enlargement of the placenta adhering to the hilum of seeds, and sometimes enveloping them; exemplified in the outer orange-coloured coat of the seed of Euonymus europæus.

Attenuate, Attenuated. Gradually tapering to a point.

Axillary. Situated in the axils, or angles formed by the union of the leaf and stem.

Baccate. Berry-like; that is, with the seeds buried in a fleshy substance, enclosed in a thin outer skin.

Bibracteate. Furnished with two braeteas.
Biecallose. Having two small callosities, or protuberances.
Bifid. Two-cleft.
Bilabiate. Having two lips.
Bilamellate. Divided into two flat parts.
Bipartite. Two-parted.
Bipinnate. Twiee pinnate.
Bossed. Convex, and having a projecting point in the eentre.
Bractea. The floral leaf, situated immediately under the flower.
Bracteate. Furnished with braeteas.
Bracteole. A small braetea.
Branchlets. Small branches.

Caducous. Falling off soon; a ealyx whieh falls off before the expansion of the eorolla is said to be cadueous.
Calyeifloral. Cor. Perigynous, or epigynous.
Calyculate. Having bracteas so disposed as to resemble an additional ealyx.
Calyptra. A thin-extinguished-shaped eovering, or hollow cone.
Calyx. The outer envelope of a flower.
Campanulate. Bell-shaped.
Capillary. Hair-like, very slender.
Capitate. Growing in a head; round and blunt.
Capitulate, Capitellate. Knobbed; growing in small heads.
Capsule. A dry fruit eontaining several seeds.
Carina. Shaped like the keel of a boat; the lower petals of a pea flower.
Carpel. An individual part of a compound fruit.
Catkin. See Ament.
Cerebriform. Having an irregular brain-like appearance, as the kernel of a walnut.
Chartaeeous. Having the consistence of paper.
Ciliate. Surrounded with hairs, as the eyelid is with eyelashes.
Cinereous. Grey, or ash-eoloured.
Coaretate. Pressed together.
Comose. Covered with small tufts of hairs called coma.
Conglomerate. Heaped, or irregularly erowded.
Connate. Joined together at the base.

Connectivum. The cellular texture which connects several compartments, as in some anthers.
Connivent. Lying close together.
Cordate. Heart-shaped; in the outline resembling that of a heart in cards.
Coriaceous. Leathery, thick, and tough.
Cornute. Horn-shaped; of a horny nature.
Corollifloral. Cor. Hypogynous and monopetalous.
Corolla. The inner envelope of a flower.
Corona. A corolline appendage, as the crown of the Daffodil.
Corymb. A kind of umbel, with the stalks of the outer flowers longer than those of the centre, so as to form a level head.
Corymbose. Having the form of a corymb.
Cotyledons. Leaves enclosed in the seed, which serve to elaborate the sap before the expansion of the true leaves.
Crenate. Scolloped; having round notches.
Crenulate. Full of notches.
Crustaceous. Having a hard brittle shell.
Cucullate. Curved inwards; of a cowl or hood-like appearance.
Cuneate. Wedge-shaped.
Cuspidate. Suddenly terminating in a point; spear-pointed.

Deciduous. Falling off. A tree is said to be deciduous when it does not retain its leaves through the winter.
Declinate. Bending downwards.
Decompound. Twice pinnate.
Decumbent. Lying down on the ground.
Decurrent. Running down: a leaf extended down the stem is decurrent.
Decussate. Leaves are decussate when they grow in pairs, and alternately cross each other.
Dehiscent. Opening naturally.
Deltoid. Shaped like the Greek Δ.
Dentate. Marginal teeth-like incisions.
Denticulate. Having the margins finely and slightly toothed.
Diadelphous. Stamens in two bundles, united by their filaments.
Dialypetalous. A corolla composed of separate petals.
Diandrous. Having two stamens.
Diaphanous. Semi-transparent, like horn.

Dichotomous. Branching in pairs; forked.
Didymous. Twin.
Didynamous. Having two long stamens and two short ones in the same flower.
Digitate. Fingered; shaped like the hand spread open.
Dicœcious. A plant is said to be dicœcious when the male flowers are produced on one individual, and the female ones on another.
Discoid. Furnished with a disk, or something that may be compared to a disk.
Disk. The fleshy annular process that surrounds the ovary in many flowers; a receptacle adhering to the calyx; also the surface of a leaf.
Dissepiments. The partitions by which a seed-vessel is internally divided into cells.
Distichous. Two-ranked, or two-rowed, produced in opposite rows.
Divaricate. Spreading widely in different directions.
Diverging. Growing far from one point.
Drupaceous. Like a drupe.
Drupe. A fruit consisting of a fleshy substance enclosing a hard stone, as the cherry.

Ear-formed. Having somewhat the appearance of an ear.
Eccentrically. Disposed irregularly; deviating from the centre.
Echinate. Covered with prickles, like a hedgehog.
Elliptic. Oval; twice as long as broad, and about of equal roundness at both ends.
Elliptic-lanceolate. A form between elliptic and lanceolate.
Elliptic-oblong. Oblong-ovate.
Elongate. Lengthened out.
Emarginate. Having a small notch in the centre of the end or tip.
Embryo. The young plant in the seed.
Endocarp. The inner membrane of the fruit that forms the cells.
Endogen. An inside grower.
Epicarp. The external integument of the fruit.
Epicorollæ. The stamens inserted on hypogynous corolla.
Epigynous. Situated upon the style or ovary.
Epipetalæ. Stamens inserted on the corolla.
Evergreen. Retaining foliage through the winter.
Exogen. An outside grower.

Exserted. Projecting considerably beyond some other part.
Exstipulate. Without stipules. See stipule.
Extrorse. Applied to anthers which dehisce on the side farthest removed from the pistil.

Falcate. Bent like a sickle.
Fascicle. Bundle.
Fasciculate. Disposed in bundles.
Fastigiate. Tapering to a point; of compact upright growth, as the Lombardy poplar.
Ferruginous. Rusty; iron-coloured.
Filiform. Thread-shaped.
Flexuous. Zigzag; having an undulating direction.
Follicular. Having the form of a follicle.
Foraminose. Perforated, full of holes.
Funiculi. Small stalks by which the seeds are attached to the placenta.

Galbulus. The cone of the genus Cupressus.
Gamopetalous. Petals united.
Gibbous. Swelled out with excess of pulp; protuberant.
Glabrous. Smooth; without hairs.
Glaucous. Sea green, or bluish green.
Glumaceous. Having husks.
Gymnospermous. Plants with naked seeds.

Hastate. Formed like the head of a halbert.
Hemispherical. Half-round.
Hermaphrodite. A flower is so called when it consists of both male and female organs.
Heterogamous. Flowers of different sexes in the same head.
Hilum. The external mark or scar of a seed, whereby it is fixed to the placenta.
Hirsute. Hairy.
Hispid. Covered with bristle-like hairs.
Hoary. Clothed with a grey or white down.
Homogamous. All the flowers hermaphrodite.
Hypo. Under or below, in composition *Hyp.*
Hypogynous. Situated below the ovarium.

Hypostamineæ. The stamens inserted in the receptacle, or hypogynous.

Imbricate. Laid over each other like tiles.
Impari-pinnate. Pinnate leaves, terminating with an odd leaflet.
Incumbent. Lying upon.
Indehiscent. Not opening naturally.
Inflated. Puffed up; blown out like a bladder.
Inflorescence. Disposition of the flowers.
Innate. Applied to anthers when attached to the top of the filament.
Introrse. Turned inwards.
Inverted. Upside down.
Involucre. Two or more bracteas united below the flower.

Keel. The lower petals of a papilionaceous flower; a resemblance to the keel of a boat, either in leaves or flowers.

Labiate. Having a lip or lips.
Lanceolate. Lance, or spear-shaped.
Leaflet. A small leaf, forming part of a compound leaf.
Ligulate. Strap-like, having the form of a strap.
Limb. The spreading part of a petal, or of a tubular flower.
Lobe. The segment of a divided leaf.
Loculicidal. Admitting the escape of the seeds through the valves.
Lyrate. Lyre-shaped.

Monadelphous. Having the filaments united at the bottom into one bundle, or brotherhood.
Monochlamydeæ. Having a calyx only.
Monœcious. Having the stamens and pistil in separate flowers on the same plant.
Monopetalous. Having but one petal, or having the petals united so as to appear but one.
Monospermous. One-seeded.
Mucro. A sharp rigid point.
Mucronate. Terminating in a spine, or mucro.
Mucronulate. Having a small hard point.
Mutic. Pointless; a term opposed to mucro.

Navicular. Boat-shaped.
Nectariferous. Having nectaries; bearing honey.
Nectary. A part of the corolla, for the most part containing honey.
Nucamentaceous. Producing nuts.
Nucleus. The kernel of a nut.
Nut. A seed enclosed within a hard shell.

Obcordate. Inversely heart-shaped.
Oblique. Not direct or parallel.
Oblong. Two or three times longer than broad.
Oblong-lanceolate. Between oblong and lance-shaped.
Oblong-linear. In form between oblong and linear.
Obovate-cuneated. Between obovate and wedge-shaped, with the broadest end uppermost.
Obtuse. Blunt.
Orbicular, Orbiculate. Circular, spherical.
Orthotropous. Straight, and having the same direction as the body to which it belongs.
Oval. In the form of an ellipsis.
Ovarium, Ovary. The germen, or incipient seed-vessel, which contains the rudiments of the future seed.
Ovate-acuminate. Egg-shaped in the lower part, and tapering to a point.
Ovate-elliptic. Between egg-shaped and elliptical.
Ovoid. Egg-shaped.
Ovulum. An incipient seed.

Paleæ. Chaffy scales, common in compound flowers.
Palmate. Palm-shaped, divided so as to resemble the hand spread open.
Panduriform. Fiddle-shaped.
Panicle. A loose irregular mode of inflorescence, similarly disposed to that of many grasses, as oats.
Papilionaceous. Butterfly-shaped flowers, as those of the common pea.
Pappose. Downy, having pappus.
Parietal. Attached to the sides or walls of the ovary.
Pedicel. The flower-stalk of each separate flower.
Pedicellate. Having pedicels.
Peduncle. The principal flower-stalk.

Peltate. A peltate leaf has the petiole fixed in the centre of the disk, instead of in the margin.

Pentagonal. Five-angled.

Pentagynous. Having five styles.

Pentandrous. Having five stamens.

Perianth. The flower-cup; the envelope which surrounds the flower; a term applied when the calyx cannot be distinguished from the corolla.

Perigonal. Having both calyx and corolla.

Perigynous. Applied to corolla and stamens, when attached to the calyx.

Persistent. Remaining; not falling off.

Petal. A division of a corolla.

Petaloid. Like a petal.

Petiolate. Having petioles, or footstalks, to the leaves.

Petiole. The footstalk of a leaf.

Pilose. Hairy.

Pinnæ. The leaflets of a pinnate leaf.

Pinnate. A leaf divided into many smaller leaves or leaflets is said to be pinnate.

Pistil. The columnar body usually situated in the centre of a flower; when perfect it consists of the germen, style, and stigma.

Placenta. That part of the seed-vessel to which the seeds are affixed.

Plicate. Plaited.

Plumule. The ascending shoot of a seedling.

Pollen. Farina, or dust, contained within the cells of the anthers when perfect. It is essential to fructification.

Polyandrous. Having more than twenty stamens inserted in the receptacle.

Polygamous. Producing male, female, and hermaphrodite flowers on the same plants.

Polypetalous. Having many petals.

Pome. A fruit composed of the fleshy tubular part of the calyx, and crowned by the persistent limb.

Pubescent. Covered with short soft hairs.

Putamen. A nut of many cells.

Pyrenæ. A kind of fruit, synonymous with the term Pome.

Pyriform. Shaped like a pear.

Quadrangular. Having four angles.
Quadrifid. Divided four times.
Quaternate. Leaves coming off in fours from one point.

Raceme. A mode of inflorescence in which the flowers are arranged around a simple filiform axis, each particular flower on its own proper footstalk.
Racemule. A small raceme.
Rachis. The common footstalk of spikes or panicles of flowers, and of compound leaves; the axis of the cone of the silver fir, and the cedar.
Radicle. The root of an embryo.
Receptacle. That part of the fructification which supports the other parts.
Reduplicate. The edges of the sepals or petals turned outwards in æstivation.
Regma. A kind of seed-vessel, three or more celled, few-seeded, superior, dry, the cells bursting from the axis with elasticity into two valves.
Repand. When the margin of a leaf has a wavy undulated appear ance, the leaf is said to be repand.
Retuse. Ending in a broad shallow notch, appearing as if bitten off at the end.
Revolute. Rolled back.
Rhombic, Rhomboid. A figure approaching to a diamond-shape.
Rigid. Stiff.
Rotate. Wheel-shaped: a monopetalous corolla, having a very short tube and a flat limb, is called rotate.

Sagittate. Arrow-shaped, shaped like the head of an arrow.
Samara. A kind of winged seed-vessel containing one or more seeds, surrounded, or partially surrounded, by a thin transparent membrane.
Samarideous. Having samaræ.
Sarmentose. Producing trailing stems, which root at every joint.
Scabrous. Rough from little asperities.

Scobiform. Formed of a very thin, hollow, membranous aril, containing a globular free seed in its cavity.

Scale. A term usually applied to the bracteæ of the amentum or catkin; also bractcæ of cones.

Scandent. Climbing.

Scape. A naked flower-stalk, bearing one or more flowers arising from a short axis, and usually with radical leaves at its base.

Scarious. Dry and membranous.

Semi. Half.

Seminiferous. Seed-bearing.

Sepals. Divisions of the calyx.

Septicidal. Dividing at the dissepiments to admit the escape of seeds.

Serrulate. Finely notched, like the teeth of a very fine saw.

Sessile. Without stalks.

Setaceous. Resembling a bristle in form.

Silique. A long and narrow dry seed-vessel with two valves, the seeds of which are alternately fixed to both sutures.

Sinuated. Cut into scollops.

Sinus. A notch or cavity.

Sorosis. A spike, or raceme, converted into a fleshy fruit by the cohesion, in a single mass, of the ovaria and floral envelopes.

Spathe. Large membranous bract, covering numerous flowers.

Spathulate. Shaped like a spatula.

Spermoderm. The general covering of the seed.

Spinescent. Furnished with spine-like processes.

Spinule. A small spine.

Squarrose. Ragged; scurfy.

Stamen. The male organ of a flower.

Stellate. Radiating in a stem-like manner.

Stipitate. Furnished with a stipe.

Stipule. A small leaf or membrane at the base of the petiole.

Stipulate. Having stipules.

Stoloniferous. Bearing runners which root at the joints.

Stomata. Pores of the epidermis.

Striated. Streaked.

Strobile. A cone. This term is also applied to indicate the kind of fruit produced by the magnolia.

Style. That part of the pistil which is situated upon the germen, and elevates the stigma.

Sub. Somewhat; as *sub-rotund*, somewhat round, or roundish, &c.
Subulate. Shaped like an awl.
Suffruticose. Rather shrubby.

Terete. Long and round; straw-like.
Ternate. A leaf of three leaflets is called ternate.
Testa. The shell or cuticle of a seed, containing all its parts.
Tetragonal. Four-angled.
Thalamifloral. Cor. hypogynous and polypetalous.
Thyrse, Thyrsus. A mode of inflorescence in a dense or close panicle, as in the lilac.
Thyrsoid. Resembling a thyrse.
Tomentum. Down; white hairs closely matted together, and soft to the touch.
Toothleted. Having small teeth.
Torus. The receptacle when somewhat elevated.
Trapezoidal. Bearing a resemblance in form to that of a trapezium, or quadrilateral figure, whose four sides are not equal, and none of its sides parallel.
Trapezoideo-cordate. A form between that of a trapezium and that of a heart.
Trichotomous. Branches dividing into threes.
Trifoliolate. Having three leaflets.
Trigonal. Three-angled.
Triquetrous. Three-sided.
Truncate. Blunt, as if cut off.
Tubercle. A little knob.
Tuberculate. Covered with little knobs or tubercles.
Tubulous. Having a tubular calyx, corolla, nectary, stem, or leaf.
Turbinate. Top-shaped.

Umbellate. Having the flowers in round flat heads, the flower stalks proceeding from one common centre.
Unguiculate. Furnished with a claw, or an unguis, as the petals of the pink.
Urceolar, Urceolate. Pitcher-shaped.
Urceolus. The part when bellying out in the form of a pitcher.
Utricle. A little bladder.

Valvate. Opening by valves.
Ventricose. Inflated; swelled out.
Verticillate. Growing in whorls round the stem.
Vexillum. The standard, or banner (the upper petal), of a papilionaceous, or pea, flower.
Villous. Clothed with soft, close, loose hairs.

Whorl. A disposition of leaves or flowers round the stem, resembling the spokes round the nave of a wheel.

# SUPPLEMENTARY LIST

## OF SPECIES AND VARIETIES, WITH THEIR CORRECTIONS AND ADDITIONS.

CLEMATIS *montana*, page 3. Eastern end of the Lower Lawn.

PÆONIA *Moutan*, p. 4. Dell, (now a Flower Garden,) back of Brock Street.

MAGNOLIA *tripetala*, p. 6. Western end of the Upper Lawn.

MAGNOLIA *acuminata*. Western end of the Upper Lawn.

HYBISCUS *syriacus*, p. 20. Removed from the Lawn near the Obelisk, to the Border of the Lower Lawn, Eastern end.

ACER *striatum*, p. 28. Eastern end of the Lower Lawn.

*rubrum*, p. 33. Ditto.

*obtusatum*, ,, Ditto.

PAVIA *humilis pendula*, p. 38. Ditto.

PTELEA *trifoliata*, p. 43 (XANTHOXYLACEÆ). Border of the Lower Lawn.

EUONYMUS *verrucosus*, p. 47. Border of the Lower Lawn.

Rhamnus (A), *angustifolia*, p. 57. Removed from the road-side near the Upper Dell, to the pathway at the top.

Rhus *Cotinus*, p. 60. Removed from the Lawn near the Obelisk, to the Border of the Lower Lawn.

Robinia *hispida*, p. 68. Western end of the Lower Lawn.

Colutea *cruenta*, p. 71. Western end of the border, Lower Lawn.

Wistaria *chinensis* (Leguminaceæ), p. 61. Border of the Lower Lawn.

Pyrus *vestita*, p. 126. Border of the Lower Lawn.

Pyrus *torminalis*, p. 126. Western end of the Lower Lawn.

Pyrus *(Malus) hyemalis*. Border of the Lower Lawn.

Tamarix *gallica*, p. 135. Removed from near the Stone yard, to bank side, Upper Dell.

Escallonia *macrantha*, p. 141. By the pathway at the top of the Upper Dell.

Hydrangea *hortensis* (Saxifrageæ). American bed, Dell, back of Brock Street.

Aralia *spinosa*, p. 143. Border of the Lower Lawn.

Hedera *Helix palmata*,
*taurica*,
*variegata*,
*Rægneriana*,
*chrysocarpa*,
*foliis argenteis*,
*aureis*,
} *Vide* p. 144. Trained as Creepers, against the row of Elm trees, skirting the Border at the Eastern end of the Lower Lawn.

Cornus *paniculata*, p. 145. Western end of the Border, Lower Lawn.

Sambucus *nigra laciniata*, p. 151. Lawn opposite the Obelisk.

Sambucus *nigra foliis argenteis*, p. 151. Lawn opposite the Obelisk.

Sambucus *racemosa*, p. 151. Lawn opposite the Obelisk.

Lonicera *sempervirens*, p. 155. Western end of the Border, Lower Lawn; trained against one of the Elms.

Calluna *vulgaris* (Ericaceæ), p. 159. Bank side, Upper Dell.

Leucothoe *spinulosa*, or Andromeda *Catesbœi* (Ericaceæ), p. 159. American Bed.

Leucothoe *floribunda*, or Andromeda *floribunda*. American Bed.

Arbutus *procera*, p. 163. Border of the Lower Lawn, Eastern end.

Rhododendron *ponticum præcox album*, p. 167. Removed to the American Bed.

Rhododendron *speciosum*, or Azalea *speciosa*. Dell, back of Brock Street.

Ledum *latifolium* (Ericaceæ), p. 159. Dell, back of Brock Street.

Ornus *europæa*, p. 183. Border of the Lower Lawn, Eastern end.

Jasminum *revolutum*, p. 183. Border of the Lower Lawn, Western end.

Jasminum *nudiflorum*, p. 183. Lawn opposite the City entrance.

Fabiana *imbricata* (Solanaceæ), p. 189. Bank side, Upper Dell.

Buddlea *Lindleyana*, p. 192. Upper Lawn.

Laurus *densifolia*, p. 194. Eastern end of the Lower Lawn.

Daphne *Laureola*, p. 196. Upper Lawn.

Daphne *collina Neapolitana*. Upper Lawn and American Bed.

Daphne *Gnidium*, American Bed.

Shepherdia *canadensis*, p. 200. Western end of the border, Lower Lawn.

Aristolochia *sipho* (Aristolochiaceæ). Western end of the border, Lower Lawn; trained against one of the elms.

Buxus *balearica*, p. 202. Lawn opposite the City entrance, and also at the Brock St. entrance.

Ficus *Carica* (Artocarpeæ), p. 203. Eastern end of the Lower Lawn

Ulmus *(campestris) viminalis*, p. 209. Royal Avenue, Western end.

Ulmus *(montana) purpurea*, p. 210. Near the Royal Victoria Park Gate.

Ulmus *(montana) rugosa*, p. 211, will now stand last but *two*, instead of *one*, at the Western end of the Royal Avenue; in consequence of the addition of Ulmus *viminalis*.

Salix *purpurea pendula*, p. 220. Eastern end of the Lower Lawn.

Alnus *glutinosa*, p. 231; removed from the Upper Dell, to the pathway through the Lower Commons Field, Western end.

Alnus, *glutinosa oxyacanthæfolia*. Road-side, between the Obelisk and Pond.

Quercus *Zen* or *Mirbeckii*, p. 236. Road-side near the Pond.

Quercus *glabra*. Bank side by the pathway, Upper Dell.

Fagus *sylvatica*, p. 242. Removed from the Upper and Lower Lawn, to the Southern boundary; in the second division of the Park.

Ostrya *virginica*, p. 246. Removed from the Lawn, to near the Hand-Gate, leading from the Circus and Gravel Walk.

Platanus *acerifolia*, p. 251. Removed from the Upper Lawn, to the Southern boundary near the Pond.

Juniperus *gossainthanea* or J. *Bedfordiana*, p. 254. Upper Dell, and Bank side.

Juniperus *communis*, p. 255. Bank side, Upper Dell.

Juniperus *chinensis*, p. 257. Bank side, Upper Dell. (The male plant.)

Juniperus *sabina prostrata*, 258. Bank side, Upper Dell.

Juniperus *thurifera*, p. 258. Bank side, Upper Dell.

Juniperus *phœnicea*, p. 259. Bank side, Upper Dell.

Junipers *phœnicea Lycia*, p. 259. Upper Dell.

Cupressus *Uhdeana*, p. 265. Near the statue Jupiter.

Cupressus *excelsa*, p. 265. Ditto, and Bank side, Upper Dell.

Cupressus *Corneyana* or *gracilis*, p. 265. Upper Dell, near the statue Jupiter.

Cupressus *lusitanica* or C. *religiosa*, p. 267. Bank side by the pathway, Upper Dell.

Cupressus *Goveniana*, p. 268. Bank side, Upper Dell.

Cupressus *macrocarpa*, or C. *Lambertiana*, p. 268. Bank side, Upper Dell.

PINUS *Banksiana*, p. 271. Western end of the Upper Lawn.

PINUS *Gerardiana*. Upper Dell.

ABIES *nigra*, p. 280. Upper Dell.

ARAUCARIA *brasiliana*, p. 293. Western end of the Lower Lawn.

ARAUCARIA *imbricata*, p. 293. Bank side of the Upper Dell. (The male plant.)

WELLINGTONIA *gigantea*, p. 295. Bank side by the pathway, Upper Dell.

CEPHALOTAXUS *drupacea*, or *Taxus baccata*, p. 299. Lawn near the Circus Hand-Gate.

TORREYA *nucifera* (CONIFERÆ), p. 253. Upper Dell.

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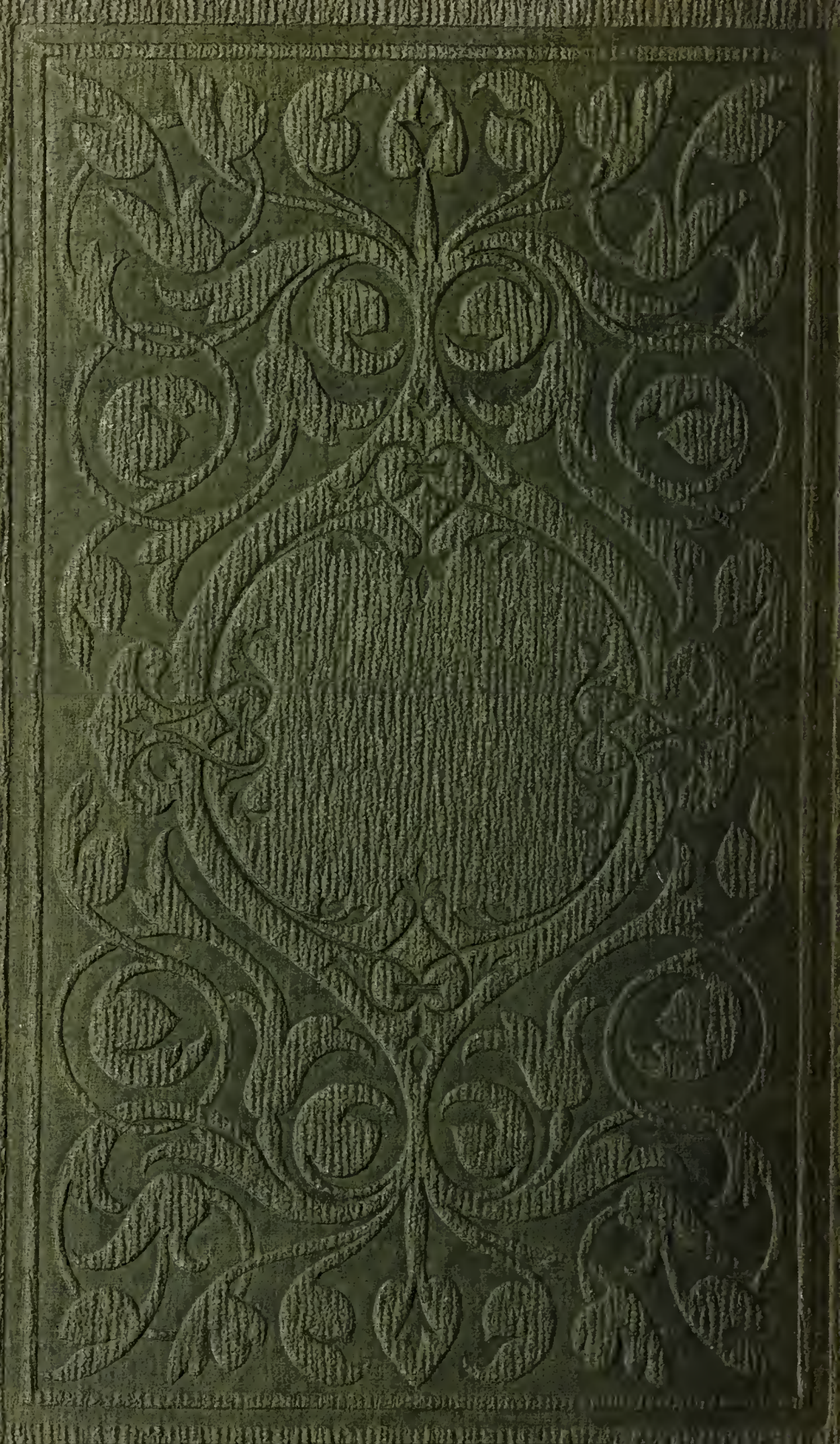
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